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NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM:

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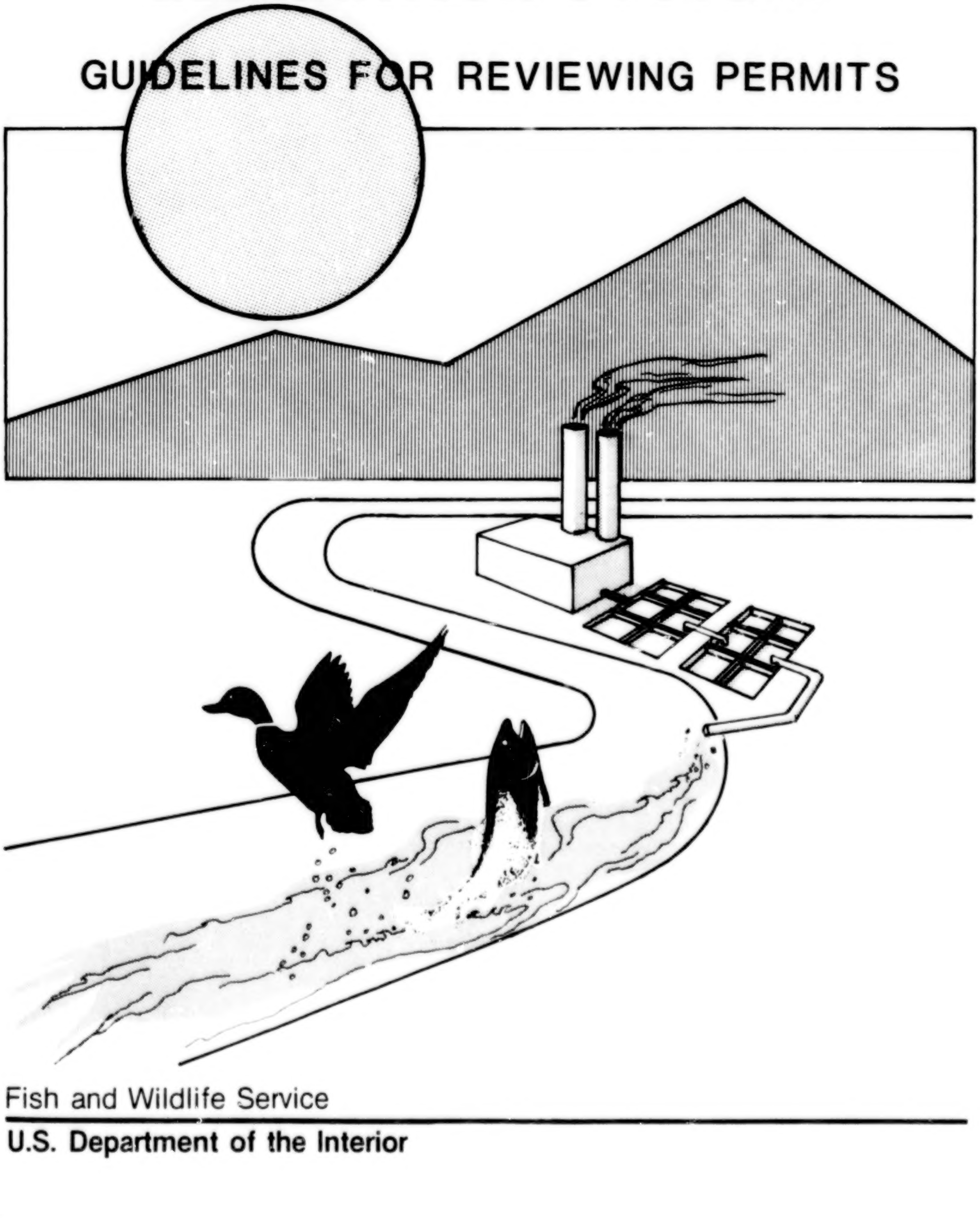
GUIDELINES FOR REVIEWING PERMITS



Fish and Wildlife Service

U.S. Department of the Interior

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FWS/OBS-84/05
September 1984

SECTION 402 HANDBOOK
GUIDELINES FOR SCREENING NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

by

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DISCLAIMER

The mention of trade names does not constitute endorsement or recommendation of use by the Federal Government.

This handbook should be referred to as follows:

Tait, H.D. 1984. Section 402 handbook: guidelines for screening National Pollutant Discharge Elimination System permits. U.S. Fish Wildl. Serv. FWS/OBS-84/05. 219 pp. plus appendixes.

PREFACE

This handbook was prepared for the Division of Ecological Services. It represents an attempt to consolidate materials from the voluminous scientific literature, and from EPA Clean Water Act regulations into a concise reference handbook to be used by fish and wildlife biologists who review National Pollutant Discharge Elimination (NPDES) permits.

Emphasis in the report is on providing access to information to be used in screening NPDES permits for relevance to fish and wildlife values. It is not intended for permit writers or reviewers outside of the Fish and Wildlife Service since it was written with the special concerns of the Service in mind.

The handbook includes a suggested strategy for Ecological Services personnel to use in becoming familiar with water quality literature and NPDES regulations. It sets forth guidelines for assessing the priority of various types of pollutants as they affect fish and wildlife.

The nature of the subject matter requires that much material published by the U.S. Environmental Protection Agency be reproduced in this handbook either directly or paraphrased. The selection of materials for the handbook, the context in which they are presented, and the way they are interpreted are the responsibility of the handbook author. Users are cautioned to consult the original and complete text of publications and regulations when appropriate.

Suggestions for improving the utility of this handbook are solicited. Comments should be directed to:

Information Transfer Specialist
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(504) 255-6511; FTS 685-6511

Note: Two previous Division of Ecological Services reports were examined and found to be instructional in understanding the role of the Service in programs authorized by the Clean Water Act. The reports are:

- Water Quality Management Program options for U.S. Fish and Wildlife Service: a report to the Annapolis Field Office dated October 27, 1978 by The Research Group, Inc.
- Draft Ecological Services Manual release 211 ESM 2, titled Environmental Protection Agency (NPDES) by L. Sisk, USFWS, Region 3.

SUMMARY

This handbook consolidates information about the Clean Water Act with special reference to the National Pollutant Discharge Elimination System (NPDES) permit program. Emphasis is placed on locating information needed by the U.S. Fish and Wildlife Service to use in selecting permits for intensive review and comment.

Chapter 1: Introduction. Comments on importance of controlling water quality and why FWS participates in permit process.

Chapter 2: Strategy for Ecological Services Personnel. Suggests how fish and wildlife biologists can become familiar with the NPDES program, the technical aspects of water pollution control, and the scientific literature.

Chapter 3: Pollution Control Through the Clean Water Act. Contains excerpts of sections of the Act as related to the NPDES permit program, regulations in condensed form, definitions, and selected references.

Chapter 4: Water Quality Criteria and Standards. Reviews the water quality criteria literature and lists criteria condensed from the "red book" and Federal Register documents.

Chapter 5: Criteria for the Selection of NPDES Permits for Review. Presents a rationale and a step by step process for screening permits to identify waste-water discharges that have a high risk for fish and wildlife resources.

Chapter 6: Sources of Information. Identifies essential reference materials for permit reviewers, and gives instructions for obtaining technical assistance.

Chapter 7: References. Includes an annotated bibliography on NPDES-related subjects.

Appendixes. Directories of State and EPA offices concerned with NPDES permits, and case histories of successful Fish and Wildlife Service permit actions are included.

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ABBREVIATIONS

ASTM - American Society for Testing and Materials

BADT - Best available demonstrated control technology

BAT - Best available technology

BATEA - Best available techonology economically achievable

BCT - Best conventional pollutant control technology

BOD - Biological oxygen demand

BMP - Best management practices

BPJ - Best professional judgement

BPT - Best practicable control technology

CFR - Code of Federal Regulations

COD - Chemical oxygen demand

CWA - Clean Water Act

DO - Dissolved oxygen

ES - Ecological Services

EPA - Environmental Protection Agency

ERL - Environmental Research Laboratory

ESM - Ecological Services Manual

FWPCA - Federal Water Pollution Control Act (of 1972)

FWS - U.S. Fish and Wildlife Service

LC_{50} - Level at which substance kills 50% of test species population as estimated by extrapolation from a graduated series of tests using different dilutions of substance being tested (usually 96 hr)

LD_{50} - Dose lethal to 50% of organisms in specified time

MATC - Maximum acceptable toxicant concentrations

MOU - Memorandum of Understanding

MPN - Most probable number

ABBREVIATIONS (continued)

NEPA - National Environmental Policy Act

NFRL - National Fisheries Research Laboratory

NPDES - National Pollutant Discharge Elimination System (cf. 402 Clean Water Act, 1977)

NRDC - Natural Resources Defense Council

NSPS - New source performance standards, to be achieved upon commencement of operation of a new plant

NTIS - National Technical Information Service

POTW - Publicly owned treatment works

PSD - Prevention of Significant Deterioration Act

PSES - Pretreatment standards for existing sources

PSNS - Pretreatment standards for new sources

RCRA - Resources Conservation and Recovery Act

SIC - Standard Industrial Classification (Department of Commerce, Bureau of Census)

TLM - Median Tolerance Limit (see LC_{50})

TMDL - Total Maximum Daily Load

TOC - Total organic carbon

TSS - Total settleable solids, or total suspended

UIC - Underground Injection Control Act

WLA - Waste-load allocation

ACKNOWLEDGMENTS

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The author is indebted to many individuals in EPA and the Service, who provided insight into the water quality - fish and wildlife issues, needs, and problems as they are addressed through the Clean Water Act. Waynon Johnson, Mike Brim, Pete Douglas, Howard Metzger, Glenn Kinser, and T. J. Miller, among others in the Service shared their experiences with NPDES permits, and offered many useful suggestions for the content of this handbook. William T. Mason provided ideas and reviewed the manuscript. Brian W. Cain and James K. Andreasen deserve special thanks for their critical reviews of the manuscript and for their constructive comments. Special thanks are also due Robert Brown, Betty Brody, and Bonnie Boynton for their editing.

Most of the data and information about permitting procedures contained in this handbook were obtained from EPA publications either through paraphrasing the original text or through direct quotation. Staff of the EPA Regional Office, Atlanta, and the University of New Orleans library were most helpful in providing access to pertinent literature.

1. INTRODUCTION

1.1. WATER QUALITY AND FISH AND WILDLIFE

The dangers of pollutants to living aquatic organisms as well as to human health have been recognized by the Congress in the Clean Water Act (P. L. 92-500). The goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife..." is spelled out in the Act. The U.S. Fish and Wildlife Service (Service) with its responsibility for a broad range of living organisms and their habitats has a large stake in the attainment of that goal.

Pollutants added to water bodies are, in general, harmful to the well-being of fish and wildlife. Their presence is often an important limiting factor for species of concern to the Service. Pesticide contamination and accumulation in the food chain has been a principal cause of reproductive failure in the bald eagle, the peregrine falcon, and the brown pelican. The presence of DDT, PCB's, and heavy metals in east coast estuaries may be a direct threat to Canada geese. Poor water quality is probably the main cause of declines of submerged aquatic vegetation in Chesapeake Bay with attendant declines of canvasback and redhead ducks. Contaminants may be limiting natural reproduction of lake trout in the Great Lakes with the result that the Service, along with the Great Lakes States, must operate expensive fish hatcheries to support the recreational, commercial, and Indian fisheries of the area.

The effects of pollutants on aquatic life are varied and complex and may be immediate and pronounced or subtle and long-term. Food chains may be disrupted, particular life stages of organisms destroyed, migration routes blocked, reproduction may be at risk, or the usefulness of fish, shellfish, or birds for recreation or food may be impaired.

To further complicate matters, the levels of a given pollutant that will adversely affect a species of interest is a function of many variables. Among other things, natural levels of the polluting substance already present in the water; the pH; dissolved solids; temperature; stream flows; dilution factors; exposure times; interaction with other pollutants (synergism); the waste load concentration; the form of the chemical, its persistence, and its tendency to bioconcentrate; and the adaptation to the receiving water that an organism has attained all affect the toxicity of a pollutant.

Furthermore, the quality standards (i.e., the permissible levels of pollutants) for a water body reflect not only the biological effects of the substance, but social and economic considerations as well. Thus, there are water-body (stream) classifications, present and attainable uses, national water-quality criteria, State water-quality criteria and standards, cost-benefit analyses, and the state-of-the-art of industrial technology for the Fish and Wildlife biologist to ponder.

1.2 THE RATIONALE FOR FISH AND WILDLIFE SERVICE PARTICIPATION IN THE NPDES PERMIT PROGRAM

The states, for the most part, have jurisdiction over the protection of water quality, with an EPA overview. The states also have jurisdiction over the management of most resident fish and game species and their habitats. The Service, nevertheless, has bonafide reasons for monitoring NPDES applications, and, at times, reasons for getting actively involved. The specific legislative authorities such as the Fish and Wildlife Coordination Act, Endangered Species Act, Fish and Wildlife Act, etc., need not be reviewed here; it is sufficient to review the obvious functions of the Service to see the reasons for becoming involved in NPDES permit reviews.

- A legislative mandate to provide for the conservation of endangered and threatened species of fish and wildlife, including aquatic ecosystems upon which they depend.
- Fish husbandry research and fish production at national fish hatcheries and fish cultural and research centers. (The quality of receiving waters for hatchery fish is critical to stocking objectives, and the Service must be concerned about the quality of effluents from hatcheries.)
- Protection, conservation, and enhancement of anadromous fish.
- Direct stewardship of living resources and habitats on national wildlife refuges.
- An advisory relationship in the management of habitat on other Federal lands (NPS, BLM, Indian, and DoD) under various interagency agreements.
- Responsibility for advising the Secretary of Interior regarding environmental aspects of mineral leasing and management activities, particularly oil and gas on the OCS and coal on Interior lands (see Departmental Manual 655 and interagency agreement with BLM on coal leasing).

- International treaty obligations. (Water quality directly affects the health and productivity of fish and wildlife populations protected by treaties.)
- The Service is a biological research and information transfer agency with much scientific knowledge to contribute to the conservation and protection of living organisms. It is in the public interest to bring this expertise to bear on water-quality questions.
- Habitat preservation when Service trustee interests such as that for waterfowl are threatened by development activities.

2. STRATEGY FOR ECOLOGICAL SERVICES PERSONNEL

Clearly, protection of water quality for fish and wildlife should be a high priority of the Fish and Wildlife Service. It is equally clear that under present circumstances of reduced funding and manpower in the Division of Ecological Services, choosing which, if any, types of NPDES permits will be selected for close review and comment will be difficult. Rapid access to available information is an aid to efficient use of the limited resources available for NPDES permit work.

The objective here is to suggest ways in which individuals can get through the maze of water-quality law, regulations, technical jargon, and procedural requirements to identify high-priority NPDES permits, and then review and comment on them with confidence.

The major contributions that a field biologist can make in the NPDES permit review process is to identify the living organisms present in the water body in question (particularly those species or habitats of primary interest to the Service) and then assess the probable risks to those species inherent in the anticipated project's discharge. Knowledge of the characteristics of the receiving waters, the kinds and amounts of pollutants to be discharged, the species present, and the likely effects of various pollutants on them is essential to the permit review process (Figure 2-1).

The "conditions" attached to an NPDES permit and the enforcement of those "conditions" are the primary means of controlling water quality when a pollution discharge permit is to be issued. The field biologist can suggest conditions and contribute to the design of biological surveys to be made before facility construction begins and review the results. Similarly, the continuation of permits may be based on the results of biomonitoring programs that may be required of the permit applicants. Service biologists should be prepared to offer scientific bases for conditions recommended, suggest methods of biomonitoring, and to assist with interpreting results of biomonitoring studies.

To participate in water quality decisions, Service personnel must have a basic understanding of chemistry and biochemistry, hydrology, animal and plant physiology and behavior,

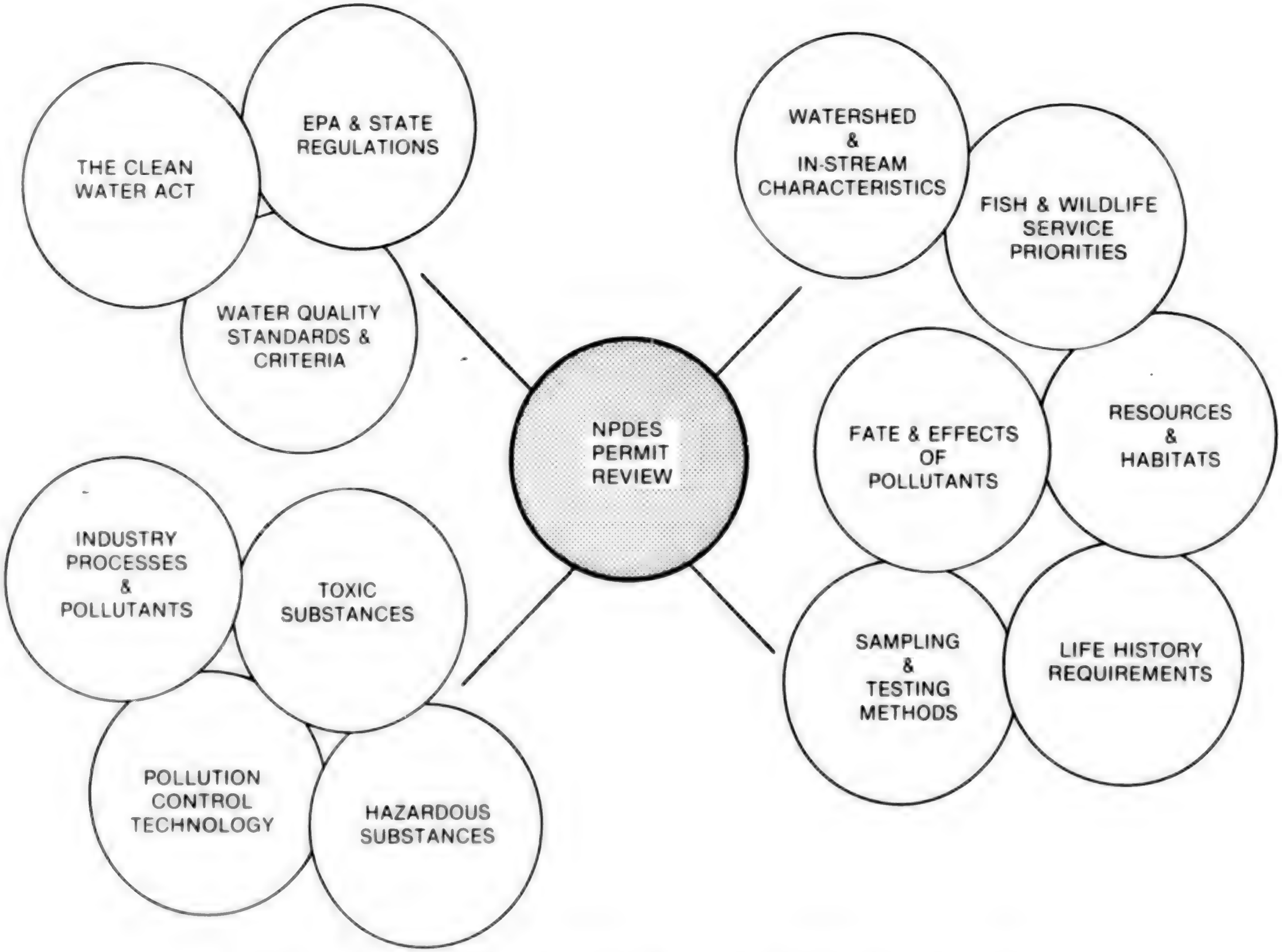
THE CLEAN WATER ACT
EPA & STATE REGULATIONS
WATER QUALITY STANDARDS & CRITERIA
NPDES PERMIT REVIEW
WATERSHED & IN-STREAM CHARACTERISTICS
FISH & WILDLIFE SERVICE PRIORITIES
FATE & EFFECTS OF POLLUTANTS
RESOURCES & HABITATS
INDUSTRY PROCESSES & POLLUTANTS
TOXIC SUBSTANCES
POLLUTION CONTROL TECHNOLOGY
HAZARDOUS SUBSTANCES
SAMPLING & TESTING METHODS
LIFE HISTORY REQUIREMENTS

Figure 2-1. Spheres of knowledge involved in NPDES permit reviews.

limnology, economics, entomology, invertebrate zoology, and ecology, in addition to fish and wildlife biology. Add to these requirements the need for experience with a labyrinth of State and Federal laws and regulations, and knowledge of a multitude of agencies.

Clearly, mastery of such diverse subject matter by staff members already fully occupied is a large order, particularly for those who are new to the NPDES permit program. The following material outlines a strategy by which Ecological Services personnel may become more familiar with the NPDES program (Table 2-1).

Note: The author of this handbook has assumed that the user, while not usually engaged in or having broad training for water quality work, is primarily engaged in habitat preservation efforts, such as land and water resource planning, review of dredge and fill permits, etc., and thus is familiar with operations of the Division of Ecological Services.

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Table 2-1. Strategy to enhance NPDES permit review capability.

Step 1. Know the program priorities of the Fish and Wildlife Service.

Step 2. Read the Federal Water Pollution Control Act and NPDES regulations; become familiar with State water-quality standards and the NPDES program as operated by the States and EPA.

Step 3. Assemble key reference materials. Learn how to rapidly locate and obtain information through data banks, libraries, bibliographic search services, mapping agencies, and personal contacts. Know sources of information about aquatic living resources and their habitats in your area.

Step 4. Develop communications and rapport with appropriate individuals in EPA and State water-quality agencies to:

- advise State and EPA of types of permits of special concerns to the Service
- offer technical assistance
- arrange time extensions as needed
- arrange to have copies of public notices, fact sheets, and permit applications sent to your desk.

Step 5. Monitor proposed changes in EPA regulations and State water-quality standards, and seek opportunities to review and comment on proposed changes.

Step 6. Learn about the technology and pollutant characteristics of industries in your area. Become familiar with the technical language of water-quality engineering.

Step 7. Become familiar with fundamental information about the fate and effects of various pollutants in freshwater and marine environments.

Step 8. Screen notices of permit applications to identify high-priority potential problems, using methods and criteria suggested in this handbook and other sources.

Step 9. Consult experts in environmental contaminants for aid in interpreting the significance of pollutants to be discharged.

(continued)

Table 2-1. (Concluded).

Step 10. Compile a "recommendations" file containing responses that can be adapted to specific draft permits and become familiar with State- and EPA-allotted time periods for responses.

Step 11. Develop information about surveys and sampling and testing methods, and seek opportunities to participate in the design of biological surveys and monitoring programs that help assure the availability of adequate information on which to base permit conditions.

3. POLLUTION CONTROL THROUGH THE CLEAN WATER ACT

The purpose of this chapter is to acquaint the reader with portions of the Clean Water Act and its amendments as they apply to the NPDES permit process. It is important to understand the limitations of the Act, and to know how far EPA and the States have progressed in meeting the requirements of the Act because it is their shortcomings that create the need for vigilance by the Service.

3.1 THE 1972 AMENDMENTS

The original intention of the Federal Water Pollution Control Act (P.L. 92-500) of 1972 was to eliminate all harmful discharges by 1985. The authors of this law realized that zero discharge could not be achieved overnight and that a progression of regulatory controls with increasing discharge restrictions would be necessary. Thus, Congress set a national goal of "wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife be achieved by July 1, 1983."

The 1972 Act also established a timetable for attaining the national goal. By 1 July 1977, existing industrial dischargers were required to achieve "effluent limitations requiring the application of the best practicable control technology currently available" (BPT) (see section 301(b)(1)(A)(of the CWA)).

By 1 July 1983, these dischargers were required to achieve "effluent limitations requiring the application of the best available technology economically achievable (BATEA), which will result in reasonable further progress toward the national goal of eliminating the discharge of pollutants" (see section 301(b)(2)(A) of the CWA).

Note: See USFWS Navigable Waters Handbook, Appendix: Legal and Related References, Statutory Law, Part D-2s, for a detailed description of the provisions of the 1972 Act.

3.2 NRDC CONSENT DECREE

From 1972 to 1976, EPA concentrated on developing Best Practicable Control Technology (BPT) and Best Available Technology

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(BAT) limitations for conventional pollutants such as suspended solids, biochemical oxygen demand, and chemical oxygen demand.

In June 1976, in settlement of a suit with the Natural Resources Defense Council (NRDC), EPA agreed to devote more attention to potentially toxic substances in industrial wastewater.[1] The resulting NRDC Consent Decree required EPA to promulgate regulations for 65 classes of toxic pollutants associated with 21 industrial categories, updated in 1979 to 34 industrial categories (Table 3-1). The 65 classes represent 129 specific substances referred to as "consent decree priority pollutants" or simply "priority pollutants" (Tables 3-2 and 3-3).

The list of 65 toxic pollutants and classes of toxic pollutants potentially includes thousands of specific pollutants. Therefore, in order to make the task more manageable, EPA selected 129 toxic pollutants for study. The criteria for selection of these 129 pollutants included frequency of occurrence in water, chemical stability and structure, amount of the chemical produced, availability of chemical standards for measurement, and other factors.

The Clean Water Act of 1977 (P.L. 95-217), which further amends the Federal Water Pollution Control Act, incorporates substantial portions of the NRDC settlement and broadens regulations to improve water quality and the control of potentially toxic pollutants, through BAT by 1 July 1984.

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[1] Council, Inc. v. Train, 8 ERC 2120 (D.D.C. 1976), see Natural Resources Defense modified, 12 ERC 1833 (D.D.C. 1979)(1)(2).

Table 3-1. NRDC consent decree, 34 industrial categories.

Adhesives
Leather tanning and finishing
Soaps and detergents
Aluminum forming
Battery manufacturing
Coil coating
Copper forming
Electroplating
Foundries
Iron and steel
Nonferrous metals
Photographic supplies
Plastics processing
Porcelain enamel
Gum and wood chemicals
Paint and ink
Printing and publishing
Pulp and paper
Textile mills
Timber
Coal mining
Ore mining
Petroleum refining
Steam electric
Organic chemicals
Pesticides
Pharmaceuticals
Plastic and synthetic materials
Rubber
Auto and other laundries
Mechanical products
Electric and electronic components
Explosives manufacturing
Inorganic chemicals

3.3 THE 1977 ACT

The Clean Water Act of 1977 (P.L. 95-217) made several important changes in the Federal water pollution control program (Table 3-4).

Its most significant feature is its incorporation of many of the basic elements of the Settlement Agreement program for toxic pollution control. Sections 301(b)(2)(A) and 301(b)(2)(C) of the Act now require the achievement by 1 July 1984, of effluent limitations requiring application of BAT for "toxic" pollutants, including the 65 "priority" pollutants and classes of pollutants which Congress declared "toxic" under section (307)(a) of the Act.

EPA's program for new-source performance standards and pretreatment standards are now aimed principally at toxic pollutant controls. Moreover, to strengthen the toxics control program, Congress added a new section 304(e) to the Act, authorizing EPA to prescribe what have been termed "best management practices" (BMPs) to prevent the release of toxic pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

Table 3-2. NRDC consent decree, 65 toxic pollutant classes.

Acenaphthene
Acrolein
Acrylonitrile
Aldrin/dieldrin
Antimony and compounds
Arsenic and compounds
Asbestos
Benzene
Benzidine
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane
Chlorinated benzenes
Chlorinated ethanes
Chloroalkyl ethers
Chlorinated naphthalene
Chlorinated phenols
Chloroform
2-chlorophenol
Chromium and compounds
Copper and compounds
Cyanides
DDT and metabolites
Dichlorobenzenes
Dichlorobenzidine
Dichloroethylenes
2,4-Dichlorophenol
Dichloropropane and dichlopropropene
2,4-dimethylphenol
Dinitrotoluene
Diphenylhydrazine
Endosulfan and metabolites
Endrin and metabolites
Ethylbenzene
Fluoranthene
Haloethers
Halomethanes
Heptachlor and metabolites
Hexachlorobutadiene
Hexachlorocyclohexane
Hexachlorocyclopentadiene
Isophorone
Lead and compounds
Mercury and compounds
Naphthalene
Nickel and compounds
Nitrobenzene
Nitrophenols
Nitrosamines
Pentachlorophenol
Phenol
Phthalate esters
Polychlorinated biphenyls (PCB's)
Polynuclear aromatic hydrocarbons
Selenium and compounds
Silver and compounds
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)
Tetrachloroethylene
Thallium and compounds
Toluene
Toxaphene
Trichloroethylene
Vinyl chloride
Zinc and compounds

Table 3-3. The 129 priority pollutants.

1. Acenaphthene
2. Acrolein
3. Acrylonitrile
4. Benzene
5. Benzidine
6. Carbon tetrachloride

Chlorinated benzenes (other than dichlorobenzenes)

7. Chlorobenzene
8. 1,2,4-trichlorobenzene
9. Hexachlorobenzene

Chlorinated ethanes (including 1,2-dichlorethane, 1,1,1-trichloroethane and hexachloroethane)

10. 1,2-dichloroethane
11. 1,1,1-trichloroethane
12. Hexachloroethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. Chloroethane

Chloroalkyl ethers (chloromethyl, chloroethyl and mixed ethers)

17. Bis (choloromethyl) ether
18. Bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)

Chlorinated naphthalene

20. 2-chloronaphthalene

Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)

21. 2,4,6-trichlorophenol
22. p-chloro-m-cresol
23. Chloroform (trichloromethane)
24. 2-chlorophenol

Dichlorobenzenes

25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3-dichlorobenzidine

Dichloroethylenes (1,1-dichloroethylene and 1,2-dichloroethylene)

29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol

Dichloropropane and dichloropropene

32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol

Dinitrotoluene

35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. Ethylbenzene
39. Fluoranthene

Haloethers (other than those listed elsewhere)

40. 4-chlorophenyl phenyl ether

41 4-bromophenyl phenyl ether

42. Bis (2-chloroisopropyl) ether
43. Bis (2-chloroethoxy) methane

Halomethanes (other than those listed elsewhere)

44. Methylene chloride (dichloromethane)
45. Methyl chloride (chloromethane)
46. Methyl bromide bromomethane)
47. Bromoform (tribromomethane
48. Dichlorobromomethane
49. Trichlorofluoro-methane
50. Dichlorodifluoro-methane
51. Chlorodibromomethane
52. Hexachlorobutadiene
53. Hexachlorocyclopentadiene
54. Isophorone
55. Naphthalene
56. Nitrobenzene

Nitrophenols (including 2,4-dinitrophenol and dinitrocresol)

57. 2-nitrophenol
58. 4-nitrophenol

(continued)

Table 3-3. (Concluded).

59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol

Nitrosamines
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. Pentachlorophenol
65. Phenol

Phthalate esters
66. Bis (2-ethylhexyl) phthalate
67. Butyl benzyl phthalate
68. Di-n-butyl phthalate
69. Di-n-octyl phthalate
70. Diethyl phthalate
71. Dimethyl phthalate

Polynuclear aromatic hydrocarbons
74. Benzo (a) anthracene (1,2-benzanthracene)
73. Benzo (a) pyrene (3,4-benzopyrene)
74. 3,4-benzofluoranthene
75. Benzo (k) fluoranthene (11,12-benzofluoranthene)
76. Chrysene
77. Acenaphthylene
78. Anthracene
79. Benzo (g, h, i) perylene (1,2-benzoperylene)
80. Phenanthrene
81. Fluorene
82. Dibenzo (a, h) anthracene (1,2,5,6-dibenzanthracene)
83. Indeno (1,2,3-cd) pyrene (2,3-o-phenylenepyrene)
84. Pyrene
85. Tetrachlorethylene
86. Toluene
87. Trichloroethylene
88. Vinyl chloride (chloroethylene)

Pesticides and metabolites
89. Aldrin
90. Dieldrin
91. Chlordane (technical mixture & metabolites)

DDT and metabolites
92. 4,4'-DDT
93. 4,4-DDE (p.p'-DDX)
94. 4,4-DDD (p.p'-TDE)

Endosulfan and metabolites
95. a-endosulfan-Alpha
96. b-endosulfan-Beta
97. Endosulfan sulfate

Endrin and metabolites
98. Endrin
99. Endrin aldehyde

Heptachlor and metabolites
100. Heptachlor
101. Heptachlor epoxide

Hexachlorocyclohexane (all isomers)
102. a-BHC-Alpha
103. b-BHC Beta
104. r-BHC-(Lindane)-Gamma
105. g-BHC-Delta

Polychlorinated biphenyls (PCB's)
106. PCB-1242 (Arochlor 1242)
107. PCB-1254 (Arochlor 1254)
108. PCB-1221 (Arochlor 1221)
109. PCB-1232 (Arochlor 1232)
110. PCB-1248 (Arochlor 1248)
111. PCB-1260 (Arochlor 1260)
112. PCB-1016 (Arochlor 1016)
113. Toxaphene
114. Antimony (Total)
115. Arsenic (Total)
116. Asbestos (Fibrous)
117. Beryllium (Total)
118. Cadmium (Total)
119. Chromium (Total)
120. Copper (Total)
121. Cyanide (Total)
122. Lead (Total)
123. Mercury (Total)
124. Nickel (Total)
125. Selenium (Total)
126. Silver (Total)
127. Thallium (Total)
128. Zinc (Total)
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Table 3-4. Highlights of the "Clean Water Act."

The following material is paraphrased from the Act, and is limited to sections of the Act relating to NPDES permits.

Sec. 101 (a) The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

- (1) It is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.
- (2) It is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983.
- (3) It is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited.

Sec. 101 (b) It is the policy of the Congress to recognize rights of States to prevent pollution, to plan development and use of land and water resources, and to implement the permit programs under sections 402 and 404 of this Act.

Sec. 301 (a) Except as in compliance with other sections of the Act, e.g. 402 and 404, discharge of pollutant unlawful.

- (1) (A) Effluent limitations for point sources best practicable control technology currently available (BPT) by July 1, 1977.
  - (B) Secondary treatment for POTW by July 1, 1977.
  - (C) Effluent limitations to meet water quality standards.
- (2) (A), (B), (C), (D), (E), (F). Effluent limitations for toxic pollutants require best available technology economically achievable (BATEA) by July 1, 1984.

Note: A convenient source of the text of the CWA and many other laws pertinent to the Fish and Wildlife Service is:

U.S. Geological Survey, and Bureau of Land Management. 1981. Compilation of laws related to mineral resource activities on the Outer Continental Shelf. U.S. Department of the Interior. 2 vols. Available from NTIS -- order PB 81-117921 for both volumes.

(continued)

Table 3-4. (Continued).

Sec. 301 (c)	Economic variance for nonconventional pollutants.
Sec. 301 (d)	Effluent limitations to be reviewed every 5 years.
Sec. 301 (f)	Discharge of radiological, chemical, or biological warfare agent or high-level radioactive waste prohibited.
Sec. 301 (g)	Water quality based variance for nonconventional pollutants.
Sec. 301 (h)	Concerns 402 permits for discharges from POTW into marine waters.
Sec. 301 (j)	Concerns modification to requirements to limit discharges under certain conditions, except note: EPA may not modify any requirement as it applies to toxic pollutants on the toxic pollutant list.
Sec. 302 (a)	Effluent limitations for balanced population of shellfish, fish, and wildlife required, but note economic and cost/benefit conditions of section.
Sec. 303 (a)	State water quality standards based on designated uses of waters and water quality criteria required.
Sec. 303 (c)	Standards shall consider propagation of fish and wildlife, and recreational purposes, etc. EPA approval of State water quality standards is required.
Sec. 303 (d)	States may adopt more stringent effluent limitations than those based on technology, including thermal discharges. States to establish maximum daily loading of certain pollutants. Water quality standards include thermal characteristics.
Sec. 304	EPA to develop water quality criteria reflecting latest scientific knowledge including effects of pollutants on aquatic life, fate of pollutants, concentration in food chain, rate of eutrophication, and factors necessary to protect fish and wildlife, etc.
Sec. 304 (b)	(1) EPA to identify and publish effluent limitation guidelines and the degree of effluent reduction attainable through the application of BPT available for point for point sources. (4) Cost reasonableness analysis a factor in setting BCT effluent limitations. Non-water quality environmental impacts also a factor.
Sec. 304 (c),(d)	EPA to publish information on methods of eliminating or reducing discharge of pollutants including effluent reduction attainable through secondary treatment.

(continued)

Table 3-4. (Continued).

	(4) EPA may regulate runoff of toxic or hazardous pollutants from plant sites, spills, sludge disposal, etc.
Sec. 304 (g)	EPA to issue guidelines for pretreatment of pollutants (by discharger) not susceptible to treatment by POTW.
Sec. 304 (h)	EPA to establish test procedures for analysis of pollutants pursuant to section 402 certifications.
Sec. 304 (i)	Establishes uniform application forms and other information requirements of NPDES permits, etc.; also establishes monitoring, reporting, and enforcement requirements relating to State NPDES programs.
Sec. 304 (k)	EPA to cooperate with other Federal agencies and transfer funds for programs to help attain water quality through Section 208 planning.
Sec. 305	Requires EPA and states to report biennially on the water quality of all navigable waters of each state relative to protecting fish, shellfish, and wildlife, etc.
Sec. 306	Relates to standards of performance (effluent limitations) for new sources.
Sec. 307 (a)	(1) Toxic pollutants listed, with provision for EPA to revise list. Among other factors EPA to consider toxicity, persistence, degradability, presence of affected organisms in any waters, the importance of affected organisms, etc. (2) BAT effluent limitations to apply to toxic pollutants may include a prohibition to discharge a toxic substance; EPA must hold public hearings about proposed effluent limitations for toxic substances. (5) Disposal of dredged materials is included as a category of point sources.
Sec. 307 (a)	(7) EPA to consult with Federal departments (and others) prior to publishing toxic substances regulations.
Sec. 307 (b)	Publication of proposed pretreatment standards for discharges into POTW. Note: Pretreatment is intended to cause industry to remove pollutants that cannot be removed by POTW.

(continued)

Table 3-4. (Continued).

Sec. 308 (a)	In general, this section authorizes EPA to require recordkeeping, reports, monitoring of effluents, sampling of effluents, etc. by the owner of a facility that discharges; it also authorizes EPA to enter premises and have access to records, monitoring equipment and samples, etc.
Sec. 308 (b)	Information about effluents to be available to the public.
Sec. 309 (c)	(1) Describes penalties for violation of conditions of NPDES permit, etc.
Sec. 316 (a)	Authorizes waivers of effluent limitations for thermal discharges where proof of no harm to fish or shellfish or wildlife, etc.
Sec. 316 (b)	Coding water intake structure.
Sec. 401	Applicants for a Federal permit must obtain State certification.
Sec. 402 (b)	Authorizes States to administer NPDES permit programs, and establishes general requirements including: (3) other states with waters affected to be notified; (4) EPA to receive notice of each application; (6) Corps of Engineers and Coast Guard to be consulted if navigation is affected; and, basically, that a State will meet the same requirements that EPA must meet in issuing permits.
Sec. 402 (c)	(2) States are required to include standard EPA testing methods.
Sec. 402 (d)	(1) States to transmit to EPA copy of each permit application received by the State, and the State to provide EPA notice of every action relating to such permit application.
Sec. 402 (d)	(2) EPA may object to issuance of a permit by a State and cancel it.
Sec. 402 (f)	EPA shall designate categories of point sources for which State permits need not be received by EPA. Note: Such permit applications must be available to the public.
Sec. 402 (1)	Permits not needed for return flows from irrigated agriculture.
Sec. 403	NPDES permits required for discharges into the ocean.

(continued)

Table 3-4. (Concluded).

Sec. 404	EPA may after consultation with the Corps of Engineers fill material at specified disposal sites when unacceptable adverse effects will occur to shellfish and fishery areas.
	Note: The review of section 404 dredge and fill permits are beyond the scope of this "402" handbook.
Sec. 502	Contains some useful definitons such as "effluent limitation," "point source," etc.
Sec. 510 (1)	State regulations prevail unless less stringent than Federal requirements.
Sec. 511	Limits application of NEPA.

3.4 BASES FOR EFFLUENT LIMITATIONS

3.4.1 Technology-based Effluent Limitations

Congress has set water-quality goals and a timetable for phasing in attainment of those goals based on effluent controls that are both reasonable and within the state-of-the-art of industries and waste treatment plants. (e.g., Best Available Technology Economically Achievable by 1 July 1984).

The process by which EPA sets the technology-based effluent limitation guidelines and regulations is complex and time consuming. It involves canvassing a category of industry to determine what average pollution control is being attained through the application of various in-plant and end-of-pipe treatment technologies. It also includes extensive sampling programs by EPA to verify the levels of pollutants being discharged as a result of waste treatment by different industry processes.

Best conventional pollutant control technology (BCT). Reductions are required in conventional pollutant discharges beyond those realized with Best Practicable Control Technology (BPT), but falls short of applying BAT to the conventional pollutants. EPA has delayed issuance of the BCT regulations and guidelines. As its benefit-cost test, EPA has decided that the unit cost (dollars per pound) of BCT controls to industrial dischargers should not exceed the unit cost of treating the conventional pollutants in an average municipal sewage treatment plant.

Best available technology economically achievable (BATEA). Limits reflect the best performance by industry anywhere in controlling the toxic and nonconventional pollutants. The BATEA limitations should, according to the Clean Water Act, represent more stringent control of the targeted pollutants than was specified in the first round of NPDES permits. BATEA standards can include changes in plant design and operation as well as end-of-pipe treatment. Costs must be considered in setting BATEA standards, but the Clean Water Act precludes application of a strict benefit/cost analysis. Other considerations in applying these standards include the age of the facilities being regulated and non-water-quality environmental impacts, such as energy requirements.

New-source limitations. For new sources of pollutant discharges into the waters of the United States, the standard of performance is the degree of effluent reduction which is achievable through application of the Best Available Demonstrated Control Technology (BADT) as defined in New Source Performance Standards (NSPS) written by EPA. NSPS should be more stringent than BAT/BCT since new facilities can be designed and built with pollution reduction in mind.

Notes: 1. EPA usually issues BCT, BAT, BMP, and NSPS standards for each of the major industrial categories simultaneously in an effluent guidelines package.

2. Effluent limits more stringent than those derived from these technology-based standards can be required for a particular facility to ensure compliance with State water quality standards.

3.4.2 Water-quality-based Effluent Limitations

These limitations are applied when technology-based limitations are insufficient to protect the quality desired in a given water body.

EPA, in the "Policy for the Development of Water Quality-based Permit Limitations for Toxic Pollutants," describes two technical approaches for developing water quality-based effluent limits: the pollutant-specific approach and the biomonitoring approach. Pollutant-specific techniques are used where discharges contain a few, well-quantified pollutants whose interactions and effects are well known, or where bioaccumulation is suspected (see *Federal Register,* 9 March 1984, 49(48)).

Where complex effluents are involved, it is more appropriate to examine the harmful effects of toxicity of the whole effluent, i.e., to use biological monitoring and laboratory testing to measure their collective effects.

Note: See *Water Quality Standards Handbook* and related support documents by EPA, Office of Water Regulations and Standards. Washington, D.C. December 1983. Also see Chapter 6.

Toxic Effluent Standards. These limitations (usually prohibitions) are used for a few substances where technology-based limitations will not provide environmental protection.

Production-based Permit Effluent Limitations. Limitations are based on some measure of the actual production of the facility.

Pretreatment Standards for Existing (PSES) and New Sources (PSNS). These standards are designed to control the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of a publicly-owned treatment works (POTW).

3.4.3 Best Professional Judgement, or Case-by-Case Permits

In the absence of applicable effluent-limitation guidelines or if those guidelines do not control pollutants of concern at a particular facility, EPA and State directors may establish effluent limitations on a case-by-case basis, based on the permit writer's "best professional judgement" (BPJ), as to what limitations the permittee would achieve after applying the technologies representing BPT, BAT, or BCT. These case-by-case permits are known as BPJ permits (see 40 CFR Part 125.3).

Note: EPA believes that permit writers must consider all pertinent information in developing case-by-case limits. Thus, BPJ permit situations may present a special opportunity for the Fish and Wildlife Service to present resource and effect data and recommendations.

New-source limitations. For new sources of pollutant discharges into the waters of the United States, the standard of performance is the degree of effluent reduction which is achievable through application of the Best Available Demonstrated Control Technology (BADT) as defined in New Source Performance Standards (NSPS) written by EPA. NSPS should be more stringent than BAT/BCT, since new facilities can be designed and built with pollution reduction in mind.

Notes: EPA usually issues BCT, BAT, BMP, and NSPS standards for each of the major industrial categories simultaneously, in an effluent guidelines package.

Effluent limits more stringent than those derived from these technology-based standards can be required for a particular facility to ensure compliance with State water-quality standards.

3.4.4 Categories of Pollutants

Pollutants considered for regulation are divided into three broad categories:

- Toxic pollutants. The list of toxic pollutants specifically named in the NRDC Settlement Agreement was developed based on such criteria as known occurrence in point-source effluents, in the aquatic environment, in fish, and in drinking water; and through evaluations of carcinogenicity, other chronic toxicity, bioaccumulation, and persistence.

- "Conventional" pollutants. Waste-water constituents, as determined by section 304(a)(4) of the Clean Water Act, include biochemical oxygen demand (BOD), suspended solids, fecal coliform bacteria, oil and grease, and pH.

- "Nonconventional" pollutants. A nonconventional pollutant is any pollutant not identified as toxic (section 307(a)(1) of the Act) or as conventional (section 304(a)(4) of the Act). Thousands of chemicals should be included in this category but EPA lists only a relative few (see NPDES forms).

Note: For example, the pollutants discharged by the pulp, paper, and paperboard industry include:

- toxic pollutants -- chloroform, zinc, trichlorophenol (TCP), and pentachlorophenol (PCP)

- "conventional" pollutants -- BOD_5, TSS, and pH

- "nonconventional" pollutants -- ammonia, total phenols, and chlorine.

3.5 GENERAL CONCEPTS OF THE NPDES PROGRAM

3.5.1 EPA and the States Operate the Program

The NPDES permit program is designed to control all discharges of pollutants from point sources into U.S. waterways. Permits may be issued by either EPA or EPA-approved states. The policy of Congress expressed in the Clean Water Act recognizes the primary responsibilities of States to control water pollution. Accordingly, the Act and EPA regulations provide that States shall be approved to operate the NPDES program if they meet certain criteria.

Currently, 36 states operate approved programs. Some states, such as Louisiana, Arkansas, Texas, and Oklahoma, have not obtained EPA approval to operate the NPDES program. As a result, applicants in such states must obtain both EPA and state permits for a given discharge, often with different forms and procedures (Figures 3-1 and 3-2).

Note: State agencies operating an EPA-approved NPDES permit program are required to include the Fish and Wildlife Service among those receiving copies of the public notice of permit applications and actions (see Federal Register, 19 May 1980, 45(98);Part 124.10).

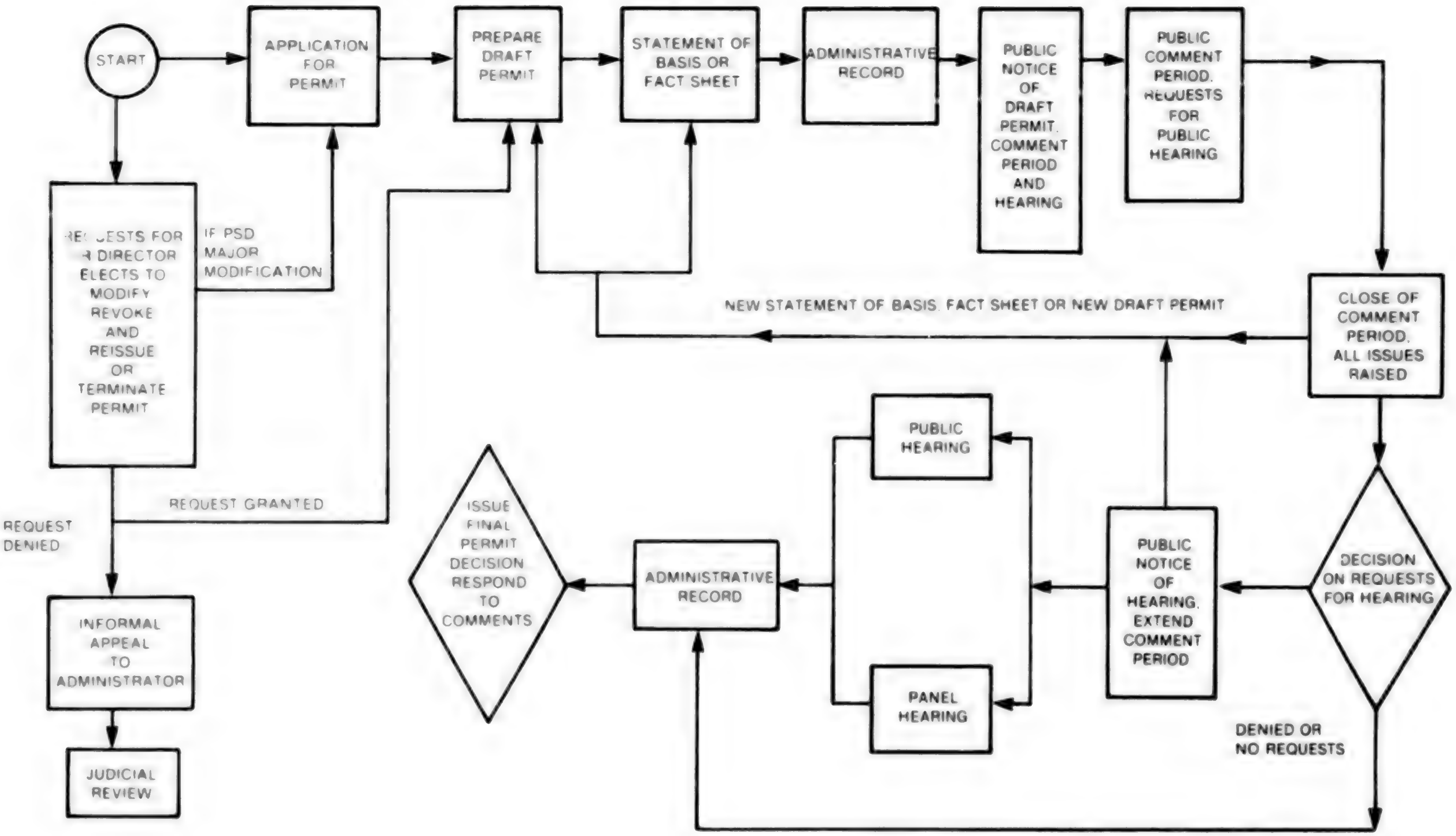
START
APPLICATION FOR PERMIT
PREPARE DRAFT PERMIT
STATEMENT OF BASIS OR FACT SHEET
ADMINISTRATIVE RECORD
PUBLIC NOTICE OF DRAFT PERMIT, COMMENT PERIOD AND HEARING
PUBLIC COMMENT PERIOD, REQUESTS FOR PUBLIC HEARING
REQUESTS FOR DIRECTOR ELECTS TO MODIFY REVOKE AND REISSUE OR TERMINATE PERMIT
IF PSD MAJOR MODIFICATION
NEW STATEMENT OF BASIS, FACT SHEET OR NEW DRAFT PERMIT
CLOSE OF COMMENT PERIOD, ALL ISSUES RAISED
PUBLIC HEARING
REQUEST GRANTED
REQUEST DENIED
ISSUE FINAL PERMIT DECISION RESPOND TO COMMENTS
ADMINISTRATIVE RECORD
PUBLIC NOTICE OF HEARING, EXTEND COMMENT PERIOD
DECISION ON REQUESTS FOR HEARING
INFORMAL APPEAL TO ADMINISTRATOR
PANEL HEARING
DENIED OR NO REQUESTS
JUDICIAL REVIEW

Figure 3-1. Conventional EPA permitting procedures.

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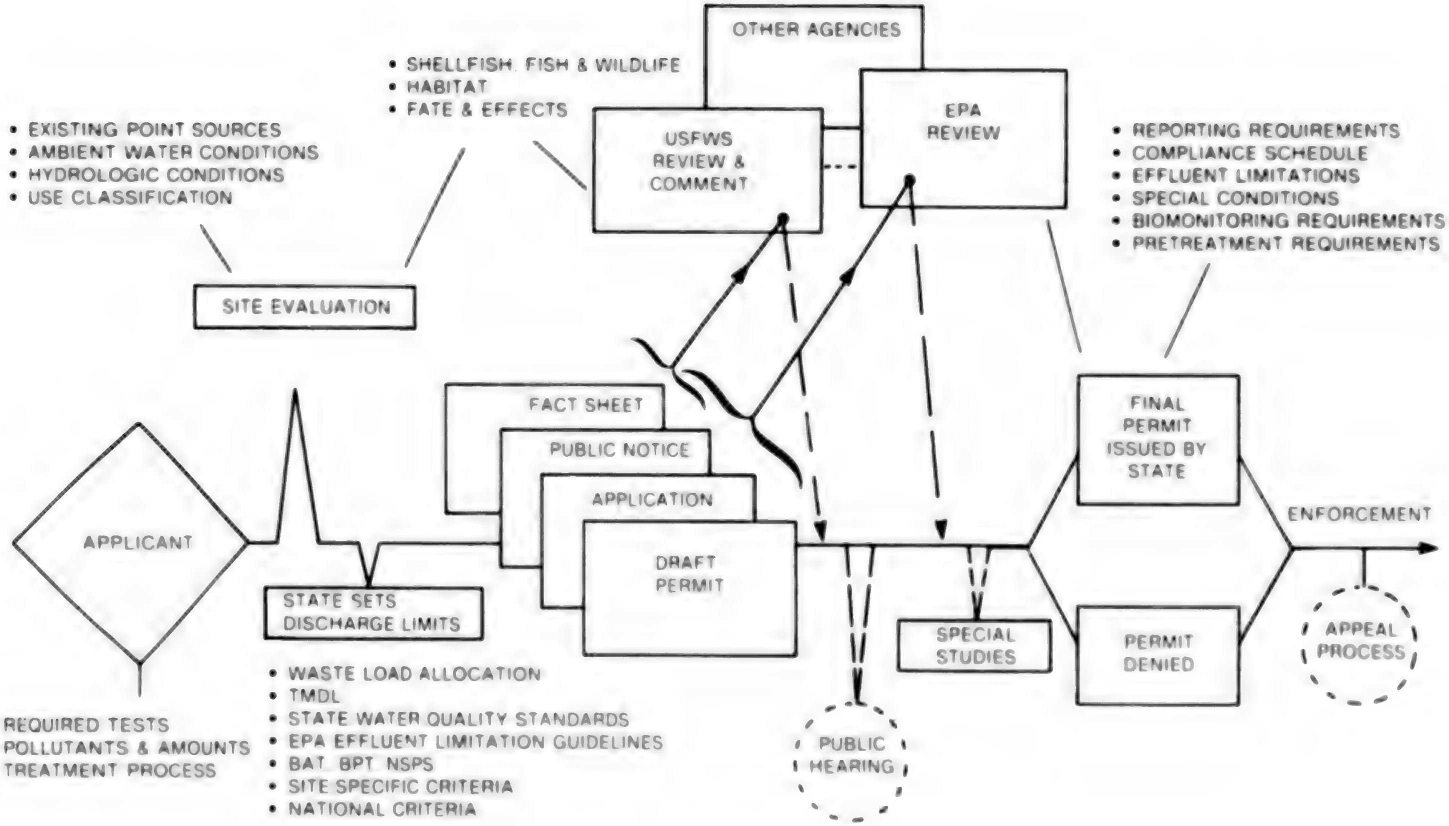

Figure 3-2. Generalized State NPDES permit procedures.

3.5.2 The NPDES Permit Process

The heart of EPA's regulatory and enforcement program is the NPDES permit authorized in section 402 of the CWA. The law states that it is illegal to discharge pollutants into navigable waters of the United States without a permit issued by EPA or by a state operating an EPA-approved program.

NPDES regulations specify procedures which must be followed by applicants, EPA, and States for issuing permits. States are required to follow EPA's procedures for draft permits, public notice, public hearings, response to comments, and EPA technical requirements such as effluent guidelines and testing methods. States are not required to follow EPA procedures for maintaining administrative records, or appeal procedures. State law governs these processes.

The FWPCA of 1972 required that any owner or operator of a facility that discharges pollutants (a point source) must have a permit. Certain sources are not required to have permits:

- irrigation return flows
- vessels when being used for transportation
- dischargers of dredged or fill material (regulated under Section 404 of CWA)
- agricultural and silvicultural operations (permits are required for discharges from animal feeding operations, certain fish farms, aquaculture projects, and certain silviculture activities)
- storm-water runoffs designated nonpoint sources.

Note: For specific information about activities requiring permits see the CWA and Environmental Permit Regulations (Federal Register, 1 April 1983, 48(64)).

A permit must be processed before any of the following take place: an applicant discharges pollutants into waters of U.S.; present facilities are expanded, production processes are changed, or the amount or type of pollutant is changed; an existing NPDES permit expires (NPDES permits are valid for up to 5 yr; thus, many existing facilities are on their second or third round of permits).

3.5.3 Contents of NPDES Applications

Some of the most important information required in an NPDES application are:

- the name and exact location of the facility
- the nature of the business engaged in at the facility, including what is (or will be) manufactured
- the manufacturing process and maximum production levels
- a line drawing (schematic) showing the flow of water through the facility
- the exact location, flow rates, flow frequencies, and chemical composition of each discharge associated with the facility
- the waste-water treatment currently employed (or to be used, for a new discharger) for each waste stream
- pollutant test data.

3.5.4 Applicant Testing Requirements

All applicants must provide test data for any of 24 other pollutants known or believed to be present in the effluent, including nitrate, phosphorous, sulfate and chlorine; aluminum, iron, and magnesium; plus oil and grease, fecal coliform organisms, and radioactive materials. Quantitative data on inorganic and organic toxic chemicals must be provided if they are known or thought to be present in the discharge (Figure 3-3).

The presence of 80 other hazardous pollutants (mostly synthetic organic compounds) must be reported if known or thought to be discharged. Immediate testing for these pollutants is not required, but any data already existing must be provided. Applicants are also required to identify any biological toxicity tests which have been conducted on any of the discharges from the facility within 3 years of the application date.

Applicants for an NPDES discharge permit for a facility yet to be built clearly cannot submit actual results or analyses of the effluent from the plant. Such applicants are, however, required to provide estimates of concentrations and total discharges of any of 159 conventional, toxic, and nonconventional pollutants expected to be present in their effluent. Such applicants are also required to list and identify the source of any of 80 additional hazardous pollutants likely to be present in the wastewater.

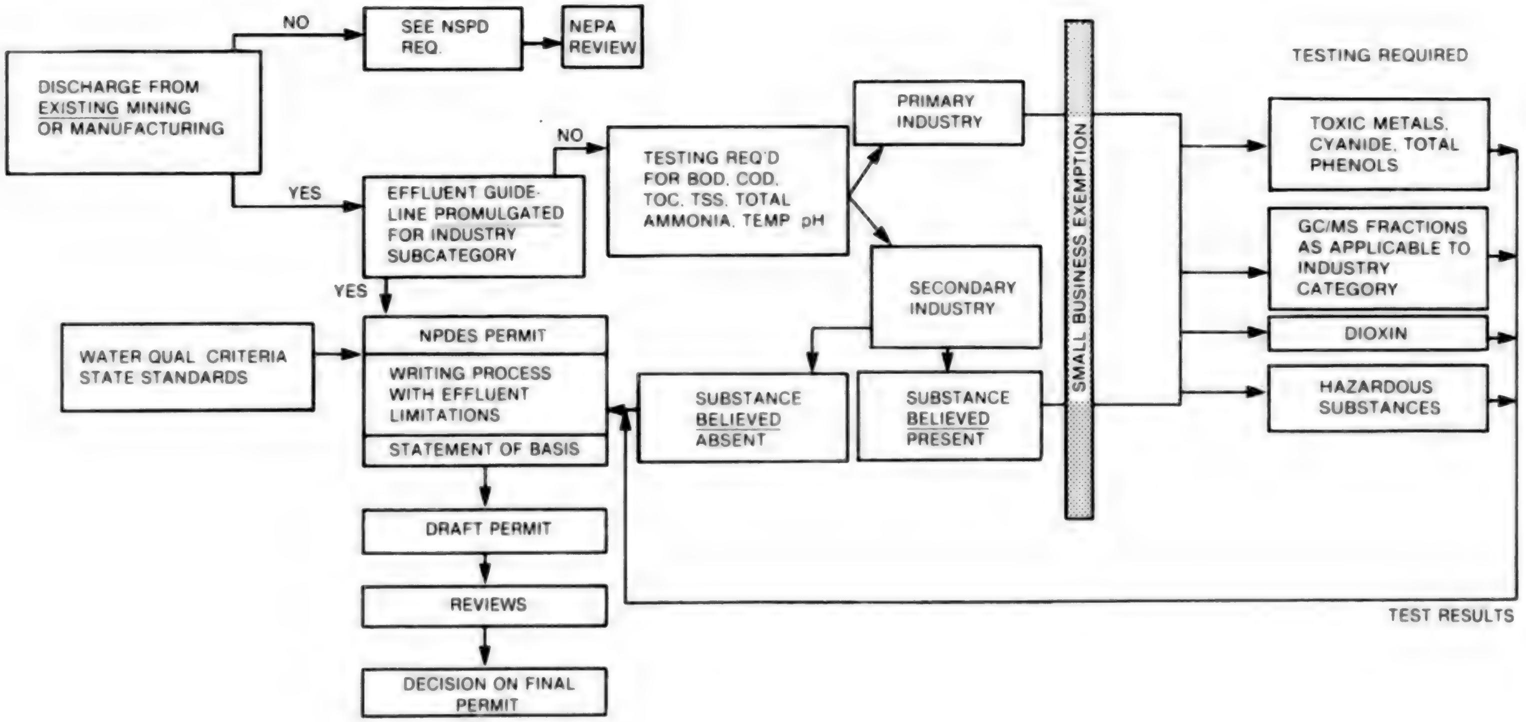
DISCHARGE FROM EXISTING MINING OR MANUFACTURING
NO
SEE NSPD REQ.
NEPA REVIEW
YES
EFFLUENT GUIDELINE PROMULGATED FOR INDUSTRY SUBCATEGORY
NO
TESTING REQ'D FOR BOD. COD. TOC. TSS. TOTAL AMMONIA. TEMP pH
PRIMARY INDUSTRY
SECONDARY INDUSTRY
YES
WATER QUAL. CRITERIA STATE STANDARDS
NPDES PERMIT
WRITING PROCESS WITH EFFLUENT LIMITATIONS
STATEMENT OF BASIS
SUBSTANCE BELIEVED ABSENT
SUBSTANCE BELIEVED PRESENT
SMALL BUSINESS EXEMPTION
TESTING REQUIRED
TOXIC METALS, CYANIDE, TOTAL PHENOLS
GC/MS FRACTIONS AS APPLICABLE TO INDUSTRY CATEGORY
DIOXIN
HAZARDOUS SUBSTANCES
DRAFT PERMIT
REVIEWS
DECISION ON FINAL PERMIT
TEST RESULTS

Figure 3-3. Effluent testing requirements—NPDES permits.

Notes: 1. All of the pollutants mentioned above may be found in Application Form 2C of the Environmental Permits Regulations Program.

2. One flaw in the NPDES application requirements is that the discharger's effluent could contain a highly toxic chemical that does not appear on any of the lists mentioned above; hence, the discharger could legally not list it. Unfortunately, EPA will probably never be able to identify all of the thousands of toxic chemicals that might be released somewhere in harmful amounts.

3. For additional requirements, see 40 CFR Part 122.21.

4. Service field offices must obtain copies of major permit applications to be able to review the types and quantities of pollutants involved. Fact sheets and public notices may contain insufficient data and are issued much too late to allow for meaningful Service response.

All applications must include quantitative data for every discharge point (outfall) for effluent concentrations and total daily discharges of:

- biological oxygen demand
- chemical oxygen demand
- total organic carbon
- total suspended solids
- ammonia
- temperature
- pH.

3.5.5 Environmental Permit Regulations

EPA published (April 1, 1983) consolidated permit regulations governing the procedures for processing permits under (1) the Hazardous Waste Management Program, (2) the Underground Injection Control Program, (3) the Prevention of Significant Deterioration Program, (4) Section 404 (dredge and fill) State Program, and (5) the National Pollutant Discharge Elimination System program. These environmental permit regulations are largely procedural in nature. The technical requirements can be found in 40 CFR Parts 125 and 133, and Subchapter N.

The five main parts of Title 40 of the Code of Federal Regulations applying to NPDES accomplish the following:

Part 121: Establishes procedures and requirements for State certification of licenses or permits issued by Federal agencies.

Part 122: Provides the basic NPDES program description. It specifies who must apply for permits; how permits are issued; what terms, conditions, and compliance schedules go into permits; how and when permit compliance monitoring and reporting are done; methods for revising or re-issuing permits; and other program requirements.

Part 123: Sets forth requirements that must be followed by States desiring to obtain EPA approval for conducting NPDES permit programs, in submitting a program to EPA. It also contains procedures that EPA must follow in reviewing and approving State programs.

Part 124: Provides the procedures for processing and issuing NPDES permits. It covers the review of proposed permits, public participation requirements, and appeals. It also covers State permit certifications (for EPA-issued permits), draft permits, public comments and hearings, issuance of the final permit or permit denial; and for EPA-issued permits, the evidentiary or nonadversary hearings and appeals regarding final permits.

Part 125: Establishes the particular criteria and standards which EPA and approved States apply in making certain permit determinations.

3.5.6 Environmental Permit Application Forms

EPA also developed consolidated forms in May 1980 to be used by EPA for the several pollution control programs. The forms are identified as follows:

Form 1. For use in applying for RCRA, UIC, NPDES, and PSD permits. It provides general information about the applicant and the facility, including location maps.

Form 2A. NPDES -- Publicly Owned Treatment Works (POTW).

Form 2B. NPDES -- Animal Feedlots

Form 2C. NPDES -- Existing Industrials. Contains information on discharges and requires applicants to test process water for toxic pollutants.

Form 2D. NPDES -- New Industrials and Mining.

Form 3. RCRA (Hazardous Waste) Facilities.

Form 4. UIC (Injection Wells).

Form 5. PSD Sources.

Note: Where the State has an EPA approved program, applicants use State forms and submit them to the appropriate State agency.

3.5.7 Environmental Permit Regulations in Transition

EPA has recently made significant changes in the requirements of the May 19, 1980 consolidated permit regulations as a result of litigation. Briefly, the changes include the definition of new dischargers (see Federal Register 14 June 1982, 47 (25546)), and suspensions and changes (see Federal Register 18 Nov. 1982, 47(223)). The following changes were made effective April 1, 1983:

1. Storm-water runoff discharges are redefined to reduce testing and reporting and application requirements.

   Note: Watch for a shift by EPA and the States to general permits for certain categories of storm-water discharges.

2. NPDES application testing and reporting requirements for toxic pollutants are established at a threshold level of 100 ppb, i.e., for toxic pollutants and total phenols EPA will permit applicants to report testing data for pollutants they expect to be discharged in concentrations of 100 micrograms/liter or greater. The 100 ppb level is intended for application purposes, not necessarily for permit limits. National criteria indicate that many pollutants cause adverse effects on aquatic organisms at levels below 100 ppb.

   Note: The Fish and Wildlife Service has objected to these relaxations in the testing requirements.

3. The type of sampling is to be changed in some cases from composite samples to grab samples.

4. Relaxation of the requirement to set effluent limitations on all toxic products manufactured or used by a discharger to a requirement of effluent limitations on discharges only.

5. Deletion of the prohibition of the construction of a new source before completion of a required environmental review. Rationale: EPA believes that the CWA does not regulate construction of facilities, only discharges from them.

6. Applicablility of NEPA to new sources.

7. Adequate quality assurance in laboratory testing in self-monitoring by industry.

8. Relaxation of requirements and prohibitions of "bypass" operations at facilities.

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9. Simplification of toxicity testing of effluent as it relates to the permitting process.

10. Guidelines for reporting discharges of metals as "total metals" changed to "total recoverable metals" (see 40 CFR Part 136).

11. Production-based limitations are relaxed for the automotive industry to allow higher limits when the permittee's production increases.

Note: The above changes are listed to call attention to inconsistencies that may be encountered in the usage of consolidated permit application forms.

3.5.8 Draft Permits (40 CFR Part 124.6)

When EPA or an approved State receives an application that meets NPDES requirements, they may tentatively decide to deny a permit, or to issue a permit and formulate a draft permit for public review.

3.5.9 Statement of Basis or Fact Sheet (40 CFR Parts 124.7 and 124.8)

EPA and the States are required to prepare a fact sheet or statement of basis for each draft permit.

A fact sheet is required for draft permits covering major dischargers, those having widespread public interest, or those which raise major issues. The fact sheet provides an explanation of how the terms and conditions were developed. A typical fact sheet includes: references to sections of the Act or permit regulations underlying proposed permit requirements; calculations for effluent limits or conditions; variance determinations; and State certifications. Sometimes sketches and detailed descriptions of discharge location and quantity of discharge data is included.

A statement of basis is prepared for all other EPA permits, and presents, in less detail, the legal and technical bases for the permit limits.

Both the statement of basis and the fact sheet are important components of the EPA's administrative record, and should be routinely sent to the discharger, the State, and the Service.

States are not required to prepare a statement of basis.

3.5.10 Public Notice Requirements (40 CFR Part 124.10)

The major facets of public involvement in NPDES permitting include:

- participating in public hearings
- commenting on draft permits
- appealing EPA and/or State permit decisions
- bringing citizen suits against dischargers to enforce permit conditions or against EPA for failure to comply with the Act
- in addition, the public may also participate in developing NPDES program regulations, in reviewing State applications for operating NPDES permit programs, and in reporting violations to EPA and States.

Regulations require EPA and the States to notify the public regarding certain proposed permit actions, including new-source determinations, issuance of draft permits, and hearings relating to any NPDES permit action. Notice may be mailed, published, or provided by other appropriate means.

The public notice must provide interested parties a minimum of 30 days before a hearing.

The notice of draft permit issuance must include the name and address of the applicant, a brief description of the facility to be permitted, the location of each proposed discharge point, and a summary of the legal grounds for effluent limitations and other permit conditions.

The notice must also describe the procedures to be followed in reaching a final permit decision, including:

1. Deadline for submission of written comments on the draft, which can be no less than 30 days after public notification.
2. Procedures for requesting a public hearing, or if a public hearing is already planned, the date and location.

The notice must also include directions for obtaining additional information about the permit and the permitting process, including where and how to obtain copies of the permit application, draft permit, and other relevant documents.

3.5.11 Public Comment and Hearings (40 CFR Part 124.11)

Regulations require that a public hearing be held whenever substantial public interest is shown. In addition, the permit-issuing authority may schedule a hearing on its own initiative.

For EPA-issued permits, public comment takes on added significance under the NPDES regulations. All parties, including applicants, are now required to raise objections or provide relevant information at hearings or by the close of any public comment period. This will cause applicants and interested parties to request variances or modifications during this period. However, approved States may have different requirements for raising objections.

EPA or the States may elect to reopen the public comment period when substantial new questions concerning permits arise, or to allow additional comment on requests for variances or permit modifications (40 CFR Part 124.14).

3.5.12 General Permit Program

EPA or approved States may issue general permits to control the discharge of pollutants from certain simmilar activites located in the same area. These general permits may be issued for separate storm sewers or other point sources which produce a minor amount of pollutant discharge. The public will be notified of the proposed issuance of general permits so that they may submit comments or request a hearing. EPA and approved States may require certain separate storm sewers or other facilities within a general permit program area to apply for individual permits. The program is fully defined in 40 CFR Part 122.28.

Note: Service biologists should look closely at proposed general permits, since there will be little opportunity to review individual actions once they are issued.

3.5.13 The Administrative Record (40 CFR Parts 124.9 and 124.18)

The regulations require EPA to rely on the official file, called the administrative record, to formulate permit terms and conditions. The administrative record includes the application, State certification, draft permit, statement of basis or fact sheet, supporting documents, and correspondence. The record is open to the public for inspection and copying. These administrative record requirements are not imposed on the States, since they establish their own procedures.

3.5.14 The EPA Appeals Process

Two types of appeal procedures are provided for in the NPDES regulations -- evidentiary hearings or nonadversary procedures for initial licensing. Dischargers who are either applying to EPA for their first NPDES permit or are requesting a first decision on a variance are eligible for the new initial licensing procedures.

The initial licensing procedures move away from the formalities of an EPA evidentiary hearing, which is under the control of a single hearing officer. Instead, the initial licensing hearing is held before a panel of Agency staff who are experts on the hearing issues. These panel members may question the parties themselves. The subject of the hearing is usually EPA's draft permit and not the final permit, although an initial licensing hearing may be requested after a final permit has been issued. The panel hearing may combine the comment period, the public hearing, and the evidentiary hearing into one procedure. To provide the public with a greater understanding of the issues, the Agency may also hold a public hearing before the nonadversary procedures begin.

3.5.15 Permit Compliance and Enforcement

The Act requires EPA or approved States to evaluate the permittee's compliance with permit terms and conditions. This is done through periodic inspection of a discharger's facilities and auditing of their records. Violations of the terms or conditions of a permit may subject the discharger to administrative or judicial sanctions.

Note: EPA has the authority to take enforcement action directly against a violator of a State-issued permit if the State fails to enforce after EPA notification of its concern.

3.6 LIMITATIONS OF NPDES IN PROTECTING HABITAT

Theoretically, under the CWA, EPA and the States should be or will be protecting the quality of water sufficiently to provide for balanced fish populations, and thus the Service should have little to worry about with regard to water quality. For many reasons the Service cannot depend completely upon EPA and the states to protect species of interest to the Service. There are shortcomings in the CWA that result in the discharge of toxic substances in spite of the NPDES permit process.

Realistically, EPA is unable to monitor completely what is actually being discharged by various industries and municipalities. State enforcement agencies are also understaffed.

Scientific data by which EPA can establish effluent guidelines is not yet available for many substances. Furthermore, water-quality standards and effluent guidelines are established after considering average industry practice and the cost of achieving the desired reduction of pollutants in effluents.

Also, EPA may allow variances from effluent limitations under certain conditions. The courts have ruled that for a given industry category, EPA may decide that no uniform national concern is involved, and that effluents will be determined on a case-by-case basis "dictated by water quality considerations." (An example is section 301(g), non-conventional pollutant variance for ammonia based on water quality factors.)

On the other hand, the permit issuer (State) may limit a particular pollutant on a case-by-case basis even when an EPA regulation has not been issued, if the limitations are necessary to carry out the purpose of the CWA.

Note: It would seem, therefore, that any information that the Service can supply about the effects of particular pollutants on living resources of specific areas should be of assistance to the permit writer.

For several reasons, considerable detective work may be required of Ecological Services personnel to determine whether a proposed discharge is innocuous or poses inherent risks to aquatic life.

The discharge application may not contain information about all the pollutants that will actually flow into the receiving waters. Monitoring of effluents, testing for the presence of many pollutants, and accurate reporting of the types and quantities discharged are largely left to industry. One could view this as the "fox guarding the chicken coop." For example, the language and instructions of application Form 2C (Part B) for secondary industries, such as "believe to be absent" in reference to specific substances, is not likely to inspire exhaustive study by industries.

Further, the effluent limitations specified in a permit for a given pollutant may meet the criteria of a state water-quality standard, and yet fail to protect the resource because the criteria may be inadequate. Participation by the Service in the revision of state water-quality standards may thus be more to the point than commenting on individual permits.

The cumulative effects of incremental discharges of pollutants on resources may not be recognized by the permit writer or the applicant. If this is suspected the Service may have to push for total waste-load and waste-load allocation studies before permits are issued.

One defense Service biologists have against the lack of information about pollutants in a particular permit application is to study the process methods and pollutant data available for the industry category at hand (see EPA Treatability Manual).

Note: Field offices should become familiar with the use designations for water bodies within their areas of operation. Recent changes in the regulations concerning water-quality standards allow states to downgrade certain water bodies from the use of "fish and wildlife propagation."

3./ CONSULTATION WITH THE FISH AND WILDLIFE SERVICE

While Section 404 (Dredge and Fill activities) requires EPA or states operating EPA-approved NPDES permit programs to consult with the Service, Section 402 (NPDES) does not. However, EPA regulations require that the States send copies of draft permits and public notice to the Regional office of the Service unless the Service specifically waives receipt of all or certain types of permit notices (see FR 45 HO 16?, Aug.21, 1978, Part 124.22 and FR May 19, 1980)

3.7.1 Applicability of the Coordination Act.

On March 12, 1976 the U.S. Court of Appeals, Second Circuit, issued an opinion that the Coordination Act requires consultation not only on permits associated with traditional water resource modification activities, but on all NPDES permits as well. Thus EPA must be responsive to Service recommendations when EPA is the permit issuing agency (see Sun Enterprises, Ltd. v. Train, Doc. Nos. 75-6068 and 75-4164, 2nd Circuit, March 12, 1976).

Notes: 1. The Coordination Act does not apply to actions of a State under an EPA-approved program.

2. See Appendix C for copy of EPA letter to the State of Wisconsin regarding applicability of the Coordination Act to NPDES permits.

3.7.2 Service Review of State Water-Quality Programs.

The Service's participation in research on the water-quality requirements of fish and wildlife resources is recognized; EPA consultation with the Service in defining water-quality criteria is defined in a 1974 agreement (see 55 ESM 1 Supp. 15).

Service participation in State reviews and revision of water-quality standards by "providing technical assistance and information on the identification of water uses and water quality criteria necessary to protect water uses, including protection and propagation of aquatic life and wildlife..." is further amplified in a Memorandum of Understanding dated November 13, 1978 (see 55 ESM 1 Supp. 38). It provides that the Service will comment to EPA on State-adopted water quality standards and State and areawide water-quality management plans submitted to EPA for approval.

The MOU provides the Service with opportunities to review and comment on water-quality management plans (208) and State water-quality standards (304) submitted to EPA regions for approval, but says nothing about Service review of NPDES (Section 402) permits.

Note: The agreement that the Service will assist the States as requested in identifying endangered and threatened species, their critical habitats, and water-quality standards management plan provisions necessary to protect these species describes the strongest, most logical role of the Service relative to water-quality protection.

3.7.3 Applicability of the National Environmental Policy Act (NEPA).

NEPA cannot be used to review effluent limitations or other requirements under the CWA, or to set such limitations. Section 511(C)(2) of the CWA expressly prohibits the use of NEPA for such purposes.

A new-source application for NPDES is subject to NEPA, including an analysis of significant environmental impacts.

3.7.4 State Certification of EPA Permits

Before issuing an NPDES permit, EPA must obtain certification from the State in which the discharge originates so that the discharge will comply with State legal requirements, including water-quality standards. The State may waive certification (see Section 401 of the CWA, and 40 CFR Part 124.53(d)(3))

Note: The Service may request that the State hold up certification pending receipt of data or incorporation of changes in draft EPA permits.

3.7.5 EPA Review of State Actions

State permit writers are required to submit a proposed final permit to the Regional Administrator of EPA for review, unless EPA has waived its right to review, as it often does with small dischargers.

EPA may comment on, object to the issuance of, or make recommendations for modifications to proposed State permits (see 40 CFR Parts 123.44 and 125 -- Criteria and Standards for NPDES; also Federal Register, 19 May 1980, 34(98)).

EPA's response must indicate approval or disapproval. In the latter case, EPA must state the reasons for disapproval and indicate the changes required within 90 days. If the State requests one, EPA must hold a public hearing before EPA can veto a state permit. If the State refuses to alter the permit as EPA specifies, EPA can either deny the permit again or issue the permit under EPA's own terms.

Note: Theoretically, no permit should be issued by the State when EPA has objected in writing. As a practical matter, EPA does not exercise this option very often. Service concerns about significant problems relating to proposed discharges should be expressed in writing to the State with a copy to the EPA regional office having overview.

3.8 PERMIT WRITERS' SOURCES

EPA and state permit writers typically use the following sources for drafting permits, particularly in establishing case-by-case effluent limitation guidelines.

- ambient water quality criteria for 65 pollutants
- water-quality standards
- the Treatability Manual
- historical information on the individual facility
- personal knowledge of the particular facility and similar facilities
- previous permit applications
- applicable effluent guideline-development documents
- the initial permit for the discharger (if any) and associated files
- consultation with technical experts
- relevant published technical reports
- attainable effluent limitations for similar facilities
- EPA guidance for best practicable, best available, and best conventional technologies as well as best management practices, i.e., technology-based limitations
- total maximum daily load calculations
- trip reports on site visits
- results of ambient and effluent water monitoring
- compliance monitoring reports
- permit writers' engineering judgment.

3.8.1 Total Maximum Daily Load (TMDL)

EPA defines a TMDL as the pollutant loading for a segment of water that results in an ambient concentration equal to the numerical concentration limit required for that pollutant by the criteria in the water-quality standards.

TMDL can also be defined as the mass per day of oxygen-demanding substances which can be assimilated by a stream segment at a given flow without violating dissolved oxygen standards for that segment.

States are required to identify TMDL's for various waterways or segments and certain pollutants after considering seasonal variations; i.e., they are supposed to set limits on pollutant loadings to surface waters to insure that critical biological, chemical, and physical attributes of the receiving waters are not changed in such a way as to impair their designated use, especially the criteria to support the uses.

Waste-load allocations (WLA's) are expressed as numerical effluent limitations for point-source discharges that require greater than minimum levels of treatment to meet water-quality standards. Waste-load allocations will eventually be required in all water-quality-limited segments of streams. WLA's are calculated by allocating in an equitable fashion to all dischargers the TMDL for a given stream segment. In theory, all point sources will collectively discharge only an amount of pollutants that will not exceed the stream's TMDL at critical flow conditions.

Note: The nonpoint source loads are also factored into water-quality models used in the waste-load allocation process. Waste-load allocation can only be applied to the point source NPDES permits. Additional pollutant reductions could be achieved using best management practices to curtail or reduce nonpoint source loads, but these activities frequently come under the purview of soil conservation, forestry, and other programs without enforcement powers and limited technical assistance or financial incentives.

EPA is developing technical guidance on how to establish waste-load allocations and total maximum daily loads, including a screening manual for toxic metals; allocation methods for rivers and streams, lakes, estuaries; and a bioassay/biosurvey approach to WLA's.

For more information, contact:

Mark Morris (WH-553)
USEPA
Washington, D.C. 20460
(202) 382-7056

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3.8.2 Allowable Wasteloads

States are charged with the responsibility under Section 303(d) of the Clean Water Act to develop allowable waste-loads that will insure the attainment of water-quality standards. The term waste-load allocation has evolved as the description of effluent limitations that are needed to assure attainment of water-quality standards.

Section 303(d) also requires EPA to "either approve or disapprove such identification not later than thirty days after the date of submission."

3.8.3 Seasonal Wasteload Allocations

The concept of seasonal waste-load allocations is set forth in Section 303(d)(1)(C). Congress directed that allowable waste-loads "be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." In addition, many states have laws or regulations specifically relating to seasonal allocations.

Note: The latest draft of the Water Quality Planning and Management Regulation (40 CFR 130) sets forth the requirements for identifying water where waste-load allocations are necessary to meet water-quality standards, and for establishing waste-load allocations and total maximum daily loads.

EPA is developing technical guidance on how to develop seasonal waste-load allocations. For more information contact

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3.8.4 Determination of Effluent Limitations Using Water-Quality Models

The water-quality question raised most frequently by Service personnel concerns the cumulative effects of numerous permitted pollutant discharges in a watershed. Information is often needed about the contribution of an individual proposed discharge in relation to overall water-quality conditions. Increasingly, mathematical models are used to analyze water-quality problems, including determining the fate and transport of pollutants, and receiving water impacts from events in the watershed.

Note: Water-quality modeling is a complex and difficult subject beyond the scope of this NPDES handbook. However, sources of help with modeling questions are listed in Chapter 6, and in the References section.

3.8.5 Incorporation of Waste Load Allocations Into Permit Limitations

EPA and the States try to link the waste-load allocation process to the NPDES permitting process where possible. A few of the States have developed waste-load allocation methodology documents and submitted them for EPA approval. Once approved by EPA, the allocation methods, including modeling, are applied by the States and proposed WLA's are submitted to EPA along with draft NPDES permits, i.e., approved allocations become the basis for permit limitations.

Note: The States of Georgia, South Carolina, and Pennsylvania, to name a few, have developed methodology documents.

3.9 RECOMMENDED READING

National Wildlife Federation. 1980. The Toxic Substances Dilemma: A plan for Citizen Action. U.S. Government Printing Office. 620-228/4089, Washington, D.C., 123 pp.

Although intended for use by citizen's action groups on local pollution problems, this handbook presents an overview of the "toxic substances" part of the water pollution problem that should be useful to Service biologists. The method presented for using NPDES data to survey pollutors and the chemicals being discharged in a given water body is applicable to FWS permit reviews. Case studies show how information on discharges of toxic substances can be obtained and evaluated using computerized NPDES data.

The Research Group, Inc. 1978. Water quality management program options for the U.S. Fish and Wildlife Service. A report to the Annapolis Field Office. U.S. Fish Wildl. Serv. 129 pp.

This report, prepared just after the 1977 amendments to the FWPCA, reviews program options for Fish and Wildlife Service participation in state water-quality management. The merits of actively engaging in the "208" Planning, NPDES Permit, and Water Quality Standards programs are considered. The report summarizes experiences of the Service with NPDES permit reviews in Region 3, and describes the programs of Delaware, Virginia, and Maryland at that time. It also contains a concise, plain-language review of the pertinent sections of the Clean Water Act.

Note: Copies may be available from the Annapolis ES field office.

Zwick, D. and L. Silverman. 1978. Analysis of the 1977 Clean Water Act, Bull. Am. Fish. Soc. 3(5).

This article written about 6 years ago seems to have been remarkably accurate in predicting future progress in pollution control. It contains excellent background on efforts to control different categories of pollutants and the built-in strengths and weaknesses of the Act.

4. WATER QUALITY CRITERIA AND STANDARDS

The objectives of this chapter are (1) to present information about the functions of water-quality criteria, (2) to summarize EPA philosophy concerning quality criteria as expressed in official documents, and (3) to list criteria from the "red book" and other publications in a condensed format for quick reference. The user is advised to first check the "red book" criteria (Table 4-1) and the ambient criteria (Table 4-2) together, and then review the criteria in older references cited in section 4.4.

Pursuant to section 304(a)(1) of the Clean Water Act, 33 U.S.C. 1314(a)(1), EPA is required to periodically review and publish criteria for water quality accurately reflecting the latest scientific knowledge on

- the kind and extent of all identifiable effects on health and welfare including, but not limited to, plankton, fish, shellfish, wildlife, plant life, shorelines, beaches, esthetics, and recreation which may be expected from the presence of pollutants in any body of water, including groundwater
- the concentration and dispersal of pollutants, or their byproducts, through biological, physical, and chemical processes
- the effects of pollutants on biological community diversity, productivity, and stability, including information on the factors affecting rates of eutrophication and rates of organic and inorganic sedimentation for varying types of receiving waters.

Under section 304(a)(1), these criteria are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. Criteria values do not reflect considerations of economic or technological feasibility.

4.1 THE "RED BOOK" CONDENSED

Access to the criteria contained in EPA publications is essential to the NPDES permit review process. For the convenience of the user of this handbook, the background narrative about water-quality criteria and the freshwater and saltwater criteria are reproduced herein, in part, from Quality Criteria for Water (EPA Publication 440/9-76-023), commonly known as the "Red Book" because of its red cover.

The word criterion should not be used interchangeably with, or as a synonym for, the word standard.

The word criterion represents a constituent concentration or level associated with a degree of environmental effect upon which scientific judgment may be based. As it is currently associated with the water environment, it has come to mean a designated concentration of a constituent that when not exceeded, will protect an organism, an organism community, or a prescribed water use or quality with an adequate degree of safety. A criterion, in some cases, may be a narrative statement instead of a numerical constituent concentration.

A water-quality standard is a plan for water-quality management which includes the uses (recreation, drinking water, fish and wildlife propagation, etc.) to be made of the water, and criteria to protect those uses.

Water-quality standards developed by the States under Section 303 of the Act and approved by EPA are based on the water-quality criteria, appropriately modified to take account of local conditions. The local conditions to be considered include actual and projected uses of the water, natural background levels of particular constituents, the presence or absence of sensitive important species, characteristics of the local biological community, temperature and weather, flow characteristics, and synergistic or antagonistic effects of combinations of pollutants.

Note: EPA has published guidelines for deriving numerical national water-quality criteria, and has developed criteria for a limited number of chemicals. EPA has also developed guidelines for the States to use in developing site-specific criteria for freshwater or saltwater aquatic life.

4.2 MIXING ZONES

Note: This information is taken from the EPA Water Quality Standards Handbook, 1983. This guidance supercedes previous sources.

4.2.1 Introduction

The concept of a mixing zone, a limited area or volume of water where initial dilution of a discharge takes place, has been covered by a series of guidance documents issued by EPA and its predecessor agencies. Although mixing zones have been applied in the water-quality standards program since its inception, the Water Quality Standards regulation never has had explicit reference to mixing zones. The rule now recognizes that States may adopt mixing zone policies as a matter of State discretion.

4.2.2 General

A limited mixing zone, serving as a zone of initial dilution in the immediate area of a point source of pollution, may be allowed. Whether to establish a mixing zone policy is a matter of State discretion. Such a policy, however, must be consistent with the Act and is subject to the approval of the Regional Administrator.

Careful consideration must be given to the appropriateness of a mixing zone where a substance discharged is bioaccumulative, persistent, carcinogenic, mutagenic, or teratogenic. In such cases the State must consider such effects as sediment deposition, bioaccumulation in aquatic biota, bioconcentration in the food chain, and the known or predicted safe exposure levels for the substance. The effects of bioaccumulation will depend on the predicted duration/concentration exposure of the biota; thus, the likelihood that the mixing zone will be inhabited by resident biota for a sufficiently long time to cause adverse effects should be considered. Factors such as size of the zone, concentration gradient within the zone, physical habitat, attraction of aquatic life, etc., are important in this evaluation. In some instances, the ecological and human health effects may be so adverse that a mixing zone is not appropriate.

4.2.3 Definition of Allowable Mixing Zones

Water quality standards should describe the State's methodology for determining the location, size, shape, outfall design and in-zone quality of mixing zones. The methodology should be sufficiently precise to support regulatory actions, issuance of permits and determination of BMP's for nonpoint sources. EPA recommends the following:

Location. Biologically important areas are to be identified and protected. Where necessary to preserve a zone of passage for migrating fish or other organisms in a water course, the standards should specifically identify the portion of the waters to be kept free from mixing zones. The zone of passage should be based on the water quality criteria needed to allow migration of fish. This is typically less stringent than water quality criteria needed to maintain good growth and propagation of fish.

Size. Various methods and techniques for defining the surface area and the volume of mixing zones for various types of waters have been formulated. Methods which result in quantitative measures sufficient for permit actions and which protect the designated uses of the water body as a whole are acceptable. The area or volume of an individual zone or group of zones must be limited to an area or volume as small as practicable that will not interfere with the designated uses or with the established community of aquatic life in the segment for which the uses are designated.

Shape. The shape of a mixing zone should be a simple configuration that is easy to locate in the body of water and that avoids impingement on biologically important areas. In lakes, a circle with a specified radius is generally preferable, but other shapes may be specified in the case of unusual site requirements. "Shore-hugging" plumes should be avoided in all water bodies.

Outfall design. Prior to designating any mixing zone, the State should assure that the best practicable engineering design is used and that the location of the existing or proposed outfall will avoid significant adverse aquatic resource and water quality impacts of the wastewater discharge.

In-zone quality. Water-quality standards should provide that all mixing zones conform with the following requirements. Any mixing zone should be free of point or nonpoint source-related:

- materials in concentrations that will cause acute toxicity to aquatic life (see note below);
- materials in concentrations that settle to form objectionable deposits;

- floating debris, oil, scum, and other matter in concentrations that form nuisances
- substances in concentrations that produce objectionable color, odor, taste or turbidity
- substances in concentrations which produce undesirable aquatic life or result in a dominance of nuisance species.

Note: Acute toxicity as used here refers to aquatic life lethality caused by passage through the mixing zone by migrating fish moving up- or downstream, or by less mobile forms drifting through a plume. Requirements for waste water plumes which tend to attract aquatic life should take into account such attraction and reduce toxicity so as not to cause irreversible toxic effects in such attracted aquatic life.

4.2.4 Mixing Zones for the Discharge of Dredged or Fill Material

EPA, in conjunction with the Department of the Army, has developed guidelines to be applied in evaluating the discharge of dredged or fill material in navigable waters (see 40 CFR Part 230, Federal Register, 24 December 1980). The guidelines include provisions for determining the acceptability of mixing discharge zones (Subsection 230.11(f)). The particular pollutants involved should be evaluated carefully in establishing dredging mixing zones. Dredged spoil discharges generally result in a temporary short-term disruption and do not represent a continuous discharge of materials that will affect beneficial uses over a longterm. Disruption of beneficial uses should be the primary consideration in establishing mixing zones for dredge and fill activities. State water-quality standards should reflect these principles if mixing zones for dredging activities are referenced.

4.2.5 Mixing Zones for Aquaculture Projects

The Administrator is authorized, after public hearings, to permit certain discharges associated with approved aquaculture projects (Section 318 of the Act). The regulations relating to aquaculture (40 CFR Subsection 122.56 and Subsection 125.11), provide that the aquaculture project must not result in a violation of standards outside of the project area and project approval must not result in the enlargement of any previously approved mixing zone. In addition, the aquaculture regulations provide that designated project areas must not include so large a portion of the body of water that a substantial portion of the indigenous biota will be exposed to the conditions within the designated project area (125.11(d)). Areas designated for approved aquaculture projects should be treated in the same manner as other mixing zones. Special allowances should not be made for these areas.

4.3 AMBIENT WATER QUALITY CRITERIA-1980

Since publication of the Red Book there have been substantial changes in EPA's approach to assessing scientific data and deriving national water quality criteria. Previous criteria were derived from a limited data base. For many pollutants, an aquatic life criterion was derived by multiplying the lowest concentration known to have acute lethal effect on half of a test group of an aquatic species (the LC_{50} value) by an application factor in order to protect against chronic effects. If data showed a substance to be bioaccumulative or to have other significant long-term effects, a factor was used to reduce the indicated concentrations to a level presumed to be protective.

Ambient water criterion means that concentration of a toxic pollutant in a navigable water that, based upon available data, will not result in adverse impact on important aquatic life, or on consumers of such aquatic life, after exposure of that aquatic life for periods of time exceeding 96 hr and continuing at least through one reproductive cycle; and will not result in a significant risk of adverse health effects in a large human population based on available information such as mammalian laboratory toxicity data, epidemiological studies of human occupational exposures, or human exposure data, or any other relevant data.

The 1980 criteria were formulated by applying a set of guidelines to a data base for each pollutant. The criteria for aquatic life specify pollutant concentrations which, if not exceeded, should protect most, but not necessarily all, aquatic life and its uses.

EPA Guidelines for Deriving Ambient Water Quality Criteria-1980 are not designed to derive criteria which will protect all life stages of all species under all conditions. Generally, some life stage of one or more tested species (and probably some untested species) have sensitivities below the maximum value or the 24-hr average under some conditions and would be adversely affected if the highest allowable pollutant concentrations and the worst conditions existed for a long time. In actual practice, such a situation is not likely to occur and thus the aquatic community as a whole will normally be protected if the criteria are not exceeded.

The aquatic-life criteria specify both maximum and 24-hr average values. The combination of the two values is designed to provide adequate protection of aquatic life and its uses from acute and chronic toxicity and bioconcentration without being as restrictive as a one-number criterion would have to be to provide the same amount of protection. A time period of 24 hr was chosen in order to ensure that concentrations not reach harmful levels for unacceptably long periods. A 24-hr period was chosen instead of a slightly longer or shorter period in recognition of daily fluctuations in waste discharges and of the influence of daily cycles of sunlight and darkness and temperature on both pollutants and aquatic organisms.

The maximum value, which is derived from acute toxicity data, prevents significant risk of adverse impact to organisms exposed to concentrations above the 24-hr average. The two-number criterion is intended to describe the highest average ambient water concentration which will produce a water quality generally suited to the maintenance of aquatic life while restricting the extent and duration of the excursions over the average to levels which will not cause harm.

Since some substances may be more toxic in freshwater than in saltwater, or vice versa, provision is made for deriving separate water-quality criteria for freshwater and saltwater for each substance. However, for some substances, sufficient data may not be available to derive one or both of these criteria using the guidelines.

Specific aquatic-life criteria have not been developed for all of the 65 toxic pollutants. In those cases where there were insufficient data to allow the derivation of a criterion, narrative descriptions of apparent threshold levels for acute and/or chronic effects based on the available data are presented. The descriptions are intended to convey a sense of the degree of toxicity of the pollutant in the absence of a criterion recommendation.

In certain circumstances, the criteria may not accurately reflect the toxicity of a pollutant because of the effect of local water-quality characteristics or varying sensitivities of local populations. For example, in some cases, ecosystem adaptation may enable a viable balanced aquatic population to exist in waters with high natural background levels of certain pollutants. Similarly, certain compounds may be more or less toxic in some waters because of differences in alkalinity, temperature, hardness, and other factors.

The criteria listed are based solely on the effect of a single pollutant. However, pollutants in combination may have different effects because of synergistic, additive, or antagonistic properties. It is impossible in the Ambient Water Quality Documents to quantify the combined effects of these pollutants and persons using criteria should be aware that site-specific analysis of actual combinations of pollutants may be necessary to give more precise indications of the actual environmental impacts of a discharge.

Note: The above material was excerpted from the *Federal Register*, 28 November 1980.

Information for ordering criteria documents from NTIS is listed in Table 4-3 and section 6.2 of this report. However, the quick-reference version for fresh- and saltwater aquatic life (Table 4-2, Ambient Water Quality Criteria) should suffice unless human health criteria and toxicology data are desired. The individual Ambient Water Quality Criteria Documents contain information about chemical composition, properties, and toxicological effects of pollutants as well as mammalian and human health effects. Tabular material summarizing the results of acute and chronic toxicological tests are also presented.

These documents are also a good source of technical expertise, since the authors and reviewers are listed; numerous references are cited also.

The criteria (Table 4-2) were extracted from EPA summaries published in the Federal Register, 23 November 1980. On that date EPA published water-quality criteria documents for 64 of the 65 pollutants designated as toxic under section 307(a)(1) of the Act. Dioxin is apparently the 65th. EPA noted that these criteria replace those found in the "Red Book"; criteria for other pollutants and water constituents as found in the "Red Book" remain valid.

Note: 1. See FR49(26):4551 for description of new criteria documents.

2. Copies of the complete documents for individual pollutants may be obtained only from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703-487-4650). Table 4-3 contains a list of the NTIS publication order numbers for all 64 criteria documents. Copies of these documents are also available for review in the EPA Regional Office libraries and in FWS Regional Offices (ECE).

4.4 RECOMMENDED READING -- WATER QUALITY CRITERIA

American Petroleum Institute. 1980. Guide to Water Quality Standards of the United States. API Publ. 4321.

Contains summary information about state water-quality agencies, standards, programs, and antidegradation policies. It also lists a contact person for NPDES permits in each state. A summary of existing numerical and narrative criteria and use designations for each state is also included.

Note: API intends to update this guide on a periodic basis. Copies available from the American Petroleum Institute, 2101 L Street, N. W. Washington, D.C. 20037. Order No. 84143210.

Brungs, W. A., and B. R. Jones. 1977. Temperature criteria for freshwater fish: Protocol and procedures. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. EPA-600/3-88-061. 136 pp.

The evolution of freshwater temperature criteria is discussed as it relates to standards development by regulatory agencies. The present, generally accepted philosophical approach to criteria development is explained in detail and its value in protecting various life stages of fish is illustrated by selected examples. Numerical criteria for survival, spawning, embryo development, growth, and gamete maturation of fish species were calculated and tabulated.

Kemp, H. T., R. L. Little, V. L. Holoman, and R. L. Darby. 1973. Effects of Chemicals on Aquatic Life - Water Quality Criteria Data Book, vol. 5. U.S. Environmental Protection Agency, Off. Res. Dev., Washington, D.C.

McKee, J., and H. Wolf, 1963. Water Quality Criteria. (Second ed.) Resour. Agency Calif., State Water Qual. Control Bd. Publ. 3-A. 548 pp.

McKee and Wolf provided a historical background of the development of water-quality standards and criteria. Potential water pollutants and effects on stock, wildlife, fish, and other aquatic life are described, although some of the toxicity data are outdated by more recent research and testing methods. The bibliography includes 3,827 references, chiefly dating from 1930 through 1960.

Note: Although dated and out of print, this publication is worth consulting if you can obtain access to it. Most university and water-quality agency libraries have it.

National Academy of Sciences - National Academy of Engineering (Committee on Water Quality Criteria). 1973. Water Quality Criteria, 1972. Environ. Prot. Agency Publ. EPA R3-73-033. Washington, D.C. 591 pp.

A prestigious reference book containing excellent background material on water-quality considerations for the major uses of water. The sections and appendixes on Freshwater Aquatic Life and Wildlife and Marine Aquatic Life and Wildlife seem particularly useful in assessing the effects of various constituents of water on living organisms. Contains testing results and literature references relating to a wide range of metals, pesticides, and other chemicals. Although this report is now more than ten years old, it should be consulted for the recommendations contained in it on maximum concentrations of various categories of pollutants.

The report contains numerous data tables, descriptions of the biological effects of toxic substances, concise recommendations, and specific references to scientific studies. Recommendations for physical factors such as dissolved oxygen requirements, color and turbidity, dissolved solids, acidity, alkalinity and pH, and temperature are presented.

National Technical Advisory Committee to the Secretary of the Interior. 1968. Water Quality Criteria. (The "Green Book") Report Federal Water Pollution Control Administration.

Portions of this report are included by reference in certain state water-quality standard regulations. See chapter on Freshwater Organisms in particular.

Thurston, R. V., R. C. Russo, C. M. Fetterolf, T. A. Edsall, and Y. M. Barber, eds. 1979. A review of the EPA red book: quality criteria for water. Water Qual. Section, Am. Fish Soc., Bethesda, MD. 313 pp.

Warren, C. E., P. Doudoroff, and D. L. Shumway. 1973. Development of dissolved oxygen criteria for freshwater fish. U. S. Environmental Protection Agency and Dept. of Fisheries and Wildlife, Oregon State University, Corvallis, Or. EPA-R3-73-091.

The research here reported involved laboratory studies on the survival, development, bioenergetics and growth, swimming performance, and avoidance behavior of chinook and coho salmon, steelhead trout, and largemouth bass. Some of the studies were conducted under very simple laboratory conditions, as in aquaria or other apparatus; but some of the studies on bioenergetics and growth were conducted under near natural conditions in laboratory streams and ponds. In some important cases, close correspondence was found between the effects of reduced oxygen concentration in aquarium studies of growth at maximum rations and its effects under more natural conditions in laboratory streams and ponds. Some of the biological responses of the fishes studied were affected by any appreciable reduction in dissolved oxygen below the air saturation levels, whereas others were affected only at levels below about 50% of air saturation levels.

U.S. Environmental Protection Agency. 1976. Quality Criteria for Water. (The "Red Book") EPA 440/9-76-023. 501 pp.

EPA published "Quality Criteria for Water" in 1976. It contains criteria for 48 specific pollutants, plus guidance on color, hardness, mixing zones, etc. The criteria have evolved over an extended period of time, and evolution of water-quality criteria will continue as scientific knowledge develops. The criteria are based on physical, chemical, and toxicological data and scientific judgment.

U.S. Environmental Protection Agency. 1980. Water Quality Criteria Documents; Appendix B - Guidelines for deriving water quality criteria for the protection of aquatic life and its uses. CFR 45 (231): 79341-79347.

U.S. Environmental Protection Agency. 1983. Water quality standards handbook. Office of Water Regulations and Standards, Washington, D.C.

U.S. Environmental Protection Agency. 1983. Technical support manual: water body surveys and assessments for conducting use attainability analyses. [Rivers and Streams]

U.S. Environmental Protection Agency. 1984. Technical support manual: Vol. II. Estuarine systems.

U.S. Environmental Protection Agency. 1984. Technical support manual: Vol. III. Lakes. (In press).

This handbook contains guidance prepared by EPA to assist the States in implementing the revised Water Quality Standards Regulations (48 FR 51400, Nov. 8, 1983). Included are the types of scientific and technical data and analyses EPA believes necessary so that the public and EPA can review decisions on water-quality standards affecting water-quality limited segments, i.e., those water bodies where standards cannot be met even with technology-based controls. The steps in the use attainability analysis guidelines for deriving site-specific water quality criteria, bioassay test methods, and case studies are presented.

The companion Technical Support Manual series expands upon the methods and variables used in the use attainability analyses presented in the handbook, including physical and chemical evaluation, water quality indices, pH, hardness, alkalinity, and salinity. Habitat Suitability Indices (HSI) as developed by the Fish and Wildlife Service and Habitat Evaluation Procedures (HEP) are mentioned, along with a discussion of diversity indices and measures of community structure. Chapter V (Interpretation) in Volume I (Rivers and Streams) should be of particular interest because an aquatic-life survey-rating system is presented.

Note: A call to EPA, Office of Water Quality, Criteria and Standards Division, Washington, D.C. (FTS 472-3400 or 755-0100), may yield copies of the two published volumes.

Table 4-1. "Red book" water quality criteria.

Note: The following table contains general terms. For specific definitions, consult appropriate texts. Criteria are maximum allowable quantities unless otherwise noted.

Aesthetic Qualities

Criterion: All waters free from substances attributable to wastewater or other discharges that:

(1) settle to form objectionable deposits;
(2) float as debris, scum, oil, or other matter to form nuisances;
(3) produce objectionable color, odor, taste, or turbidity;
(4) injure or are toxic or produce adverse physiological responses in humans, animals or plants; and
(5) produce undesirable or nuisance aquatic life.

Alkalinity

Criterion: 20 milligrams/liter or more $CaCO_3$ for for freshwater aquatic life except where natural concentrations are less.

Remarks: Buffers pH change; high alkalinities result in better waterfowl habitat.

Ammonia

Criterion: 0.02 milligrams/liter (as un-ionized Ammonia, NH_3) for freshwater aquatic life.

Remarks: NH_3 is toxic to fish; toxicity varies with pH and increases with salinity.

Arsenic

Criterion: 50 micrograms/liter for domestic water; no aquatic life criterion, but fish food organisms affected as low as 1.3 milligrams/liter

Remarks: Concentrates in organisms such as oysters; trivalent arsenic highly toxic to invertebrates.

Barium

Criterion: 1 milligrams/liter for domestic water.

Remarks: Soluble barium concentration in fresh and marine water generally would have to exceed 50 milligrams/liter to be toxic to aquatic life. Toxic soluble form unlikely.

Table 4-1. (Continued).

Beryllium

Criterion: 11 micrograms/liter aquatic life in soft freshwater.
1,100 micrograms/liter aquatic life in hard freshwater.
Remarks: Concentrates in marine organisms; data inadequate for criterion in marine water.

Boron

Criterion: None
Remarks: Naturally occuring concentrations have no effects on aquatic life.

Cadmium

Criterion: Soft water: 0.4-4.0 micrograms/liter.
Hard water: 1.2-12.0 micrograms/liter.
Marine water: 5.0 micrograms/liter.
Remarks: Lower values are for salmonids and invertebrates; oysters accumulate and retain cadmium.

Chlorine

Criterion: Total residual chlorine:
2.0 micrograms/liter for salmonid fish.
10.0 micrograms/liter for other freshwater and marine organisms.
Remarks: Chlorine reacts readily with nitrogenous organic materials to form chloramines, which are toxic to fish. Species diversity reduced below plants discharging chlorine-treated sewage effluents. Salmonids most sensitive to chlorine. Oysters sensitive. (See criteria for hardness.)

Chromium

Criterion: 100 micrograms/liter for freshwater aquatic life.
Remarks: Fish relatively tolerant; some aquatic invertebrates are quite sensitive. Freshwater criterion should protect marine populations.

(continued)

Table 4-1. (Continued).

Fecal Coliform Bacteria

Criterion: Shellfish waters: Not to exceed a median fecal coliform of 14 MPN per 100 milligrams/liter with not more than 10% of samples exceeding 43 MPN per 100 milligrams/liter.

Remarks: Human disease transmission via seafood from polluted water.

Note: MPN = Most probable number in a given sample.

Color

Criterion: Waters shall be virtually free from substances producing objectionable color for aesthetic purposes; the source of supply should not exceed 75 color units on the platinum-cobalt scale for domestic water supplies; and increased color (in combination with turbidity) should not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life.

Remarks: Color in water may reduce light penetration and, thus, photosynthesis by phytoplankton and aquatic vascular plant growth.

Copper

Criterion: For freshwater and marine aquatic life, 0.1 times a 96-hr LC_{50} as determined through non-aerated bioassay using a sensitive aquatic resident species.

Remarks: Toxicity of copper is dependent on the alkalinity of the water, pH, and organic compounds; higher toxicity to juvenile fish. Salmonids are very sensitive and centrarchids less. Soft-shell clams sensitive.

Cyanide

Criterion: 5.0 micrograms/liter for freshwater and marine aquatic life and wildlife.

Remarks: Cyanide toxicity is essentially inhibition of oxygen metabolism. Hydrocyanic acid probably the most toxic form in water. pH a factor in hydrocyanic acid to total cyanide ratio. Dissolved oxygen also a factor in cyanide toxicity to fish.

(continued)

Table 4-1. (Continued).

Gases, Total Dissolved

Criterion: To protect freshwater and marine aquatic life, the total dissolved gas concentrations in water should not exceed 110% of saturation at existing atmospheric and hydrostatic pressures.
Remarks: Excessive dissolved gas (chiefly nitrogen) pressure causes "gas bubble disease."

Hardness

Criterion: Classification of water by Hardness Content

Conc., mg/l $CaCo_3$	Description
0-75	soft
75-150	moderately hard
150-300	hard
300 and up	very hard

Remarks: Carbonate hardness usually considered equal to the alkalinity.

Iron

Criterion: 1.0 milligrams/liter for freshwater aquatic life.
Remarks: Iron precipitates may smother fish eggs and fish food organisms; effects of iron on marine life not investigated.

Lead

Criterion: 0.01 times the 96-hr LC_{50} value using receiving water as diluent and soluble lead measurements for sensitive freshwater resident species.
Remarks: Toxicity affected by pH, hardness, organic materials and presence of other metals; salmonids most sensitive in soft water. Oysters concentrate lead.

Manganese

Criterion: 100 micrograms/liter for marine water to protect consumers of marine mollusks.

(continued)

Table 4-1. (Continued).

Mercury

Criterion: 0.05 micrograms/liter for freshwater aquatic life and wildlife; 0.10 micrograms/liter for marine aquatic life.

Remarks: Certain microorganisms have ability to convert inorganic and organic forms of mercury to highly toxic methyl or dimethyl mercury. Mercury is rapidly accumulated in fish from water and fish food organisms. FDA guideline in edible fish is 0.5 mg/kg.

Mixing Zones

Criterion: A mixing zone is an area contiguous to a discharge where receiving water quality may neither meet all quality criteria nor requirements otherwise applicable to the receiving water. The mixing zone should be considered as a place where wastes and water mix and not as a place where effluents are treated.

The permissible size depends in part on the size of the particular receiving water; the larger the water body, the larger the mixing zone may be without violating quality standards in more than a given percentage of the total area or volume of the receiving water. Likewise, the greater number of mixing zones within a reach of river or within a water body, the smaller each must be in order to maintain an appropriate mixing zone to water body ratio. Future industrial and population growths must be considered in designating such areas for waste admixture.

As a guideline, the quality for life within a mixing zone should be such that the 96-hr LC_{50} for biota significant to the indigenous aquatic community is not exceeded.

A prime purpose in designating the location, size, and area constraints for a mixing zone is to protect the aquatic life within the receiving waterway. Shallow water areas, generally, are the nursery areas for aquatic ecosystems. Designating offshore mixing areas or providing a larger available volume or area for mixing offshore, as opposed to a smaller shoreside area, has a lesser potential for adverse biotic effects than a comparable discharge area in shallow water. Offshore, diffusion will tend to occur in all directions and not be constrained by a

(continued)

Table 4-1. (Continued).

Mixing Zones (continued)

last barrier. Mixing zones may be less harmful biologically when located deep within the receiving water and, wherever possible, beneath the light-penetration area where photosynthesis occurs and algae and associated protozoa and other organisms provide the extensive base for the aquatic food web.

Mixing zones should be located where they do not form a barrier to the migratory routes of aquatic species. On a given reach of a stream or river, it would be good practice to limit the total mixing zone width to one-third of the receiving water width. In the same fashion, the combined areas of all mixing zones within a lake should not exceed 10% of the lake surface area. In some cases, this maximum should be reduced depending on lake volume and other local conditions. Within an estuary, the maximum dimension of the mixing area should not exceed 10% of the cross-sectional area of the waterway.

Generally, shoreline and surface areas for waste admixture should be discouraged in preference to deep-water offshore designations. The relative social and ecological values of the aquatic life that may inhabit a particular waterway area should be given due consideration in zone definition (Fetterolf 1973; NAS 1974). The designation of particular mixing zones is a task that should follow the biological, physical and chemical appraisal of the receiving waterway.

See also: Fetterolf, C. M. Jr. 1973. Mixing Zone concepts; Biological Methods for the Assessment of Water Quality, American Society for Testing and Materials, ASTM STP-528, pp.31-45.

See also: section 4.2 for 1983 guidance on mixing zones.

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Table 4-1. (Continued).

Nickel

Criterion: 0.01 times the 96-hour LC50 for freshwater and marine aquatic life. [illegible]. at or below 100 micrograms/liter should not be harmful to marine and freshwater aquatic organisms.

Remarks: Toxicity affected by species, pH, synergistic effects, etc., may affect fish egg hatchability. Nickel in water toxic to plant life in conc. as low as 500 micrograms/liter.

Nitrates; Nitrites

Criterion: 10 milligrams/liter nitrate nitrogen (N) for domestic water supply.

Remarks: Municipal and industrial wastewaters are major point sources of N. Conventional wastewater treatment [illegible]. Salmonids are more sensitive to nitrite toxicity than other fish; levels of nitrate nitrogen at or below 90 milligrams/liter would have no adverse effects on warmwater fish. Nitrite nitrogen at or below 5 milligrams/liter should not harm most warm water fish; nitrite N at or below 0.06 milligrams/liter should not harm salmonids.

Oil and Grease

Criterion: None.
Note: See literature for oil/petroleum-hydrocarbon effects, effects on waterfowl egg hatching, etc. [illegible] suggests criterion of less than [illegible] milligrams/liter because of toxicity of water-soluble-fractions to [illegible].

Dissolved Oxygen

Criterion: 5.0 milligrams/liter minimum.
5.0 milligrams/liter for interstitial gravel water for salmon.

Remarks: 3 milligrams/liter seems to be about the lowest level that will support a mixed fish population. [illegible] especially vulnerable to [illegible] aquatic species.

(Continued)

Table 4-1. (Continued).

Aldrin-Dieldrin

Criterion: 0.003 micrograms/liter for freshwater and marine aquatic life.
Remarks: Highly persistent chemical which bioaccumulates; carcinogenic; low levels may affect terrestrial vertebrates.

Chlordane

Criterion: 0.01 micrograms/liter for freshwater aquatic life.
0.004 micrograms/liter for marine aquatic life.
Remarks: Persistent; bioaccumulation potential; carcinogen. Wide range of acute toxicity values for freshwater fishes, and freshwater invertebrates; pink shrimp most sensitive marine species tested. Chlordane concentrates in oysters.

Chlorophenoxy Herbicides

Criterion: 2,4-D: 100 micrograms/liter for domestic water
2,4,5-TP: 10 micrograms/liter for domestic water.
Remarks: None

DDT

Criterion: 0.001 micrograms/liter for freshwater and marine aquatic life.
Remarks: Persistent; bioaccumulation potential; carcinogen. Production and use of DDT suspended by EPA; DDT induces thinning in bird eggs; DDT converts to DDE.

Demeton

Criterion: 0.1 micrograms/liter for both freshwater and marine aquatic life.
Remarks: An organophosphorous pesticide. Invertebrates sensitive. Enzyme-inhibiting potential.

Endosulfan

Criterion: 0.003 micrograms/liter for freshwater aquatic life.
0.001 micrograms/liter for marine aquatic life.
Remarks: Toxicity to fish varies widely. Striped bass, shrimp, oysters, and crabs are sensitive.

(Continued)

Table 4-1. (Continued).

Endrin

Criterion: 0.004 micrograms/liter for both freshwater and marine aquatic life.
Remarks: Concentrates in tissues of fish, oysters, shrimp; excreted rapidly.

Guthion

Criterion: 0.01 micrograms/liter for both freshwater and marine aquatic life.
Remarks: An organophosphorous pesticide; acetylcholinesterase enzyme inhibition; centrarchids sensitive.

Heptachlor

Criterion: 0.001 micrograms/liter for both freshwater and marine aquatic life.
Remarks: Highly persistent, will accumulate in food chain; oysters concentrate; birds sensitive to heptachlor in diet; EPA suspended use and production in 1975.

Lindane

Criterion: 0.01 micrograms/liter for freshwater aquatic life.
0.004 micrograms/liter for marine life.
Remarks: Shrimp sensitive.

Malathion

Criterion: 0.1 micrograms/liter for both freshwater and marine aquatic life.
Remarks: An organophosphorous pesticide; aquatic invertebrates more sensitive than fish; toxicity is by AChE inhibition. Used in mosquito control; degrades rapidly.

Methoxychlor

Criterion: 0.03 micrograms/liter for both freshwater and marine aquatic life.
Remarks: Less bioaccumulative in aquatic organisms than other chlorinated pesticides. Low accumulation rates in birds and mammals.

(continued)

Table 4-1. (Continued).

Mirex

Criterion: 0.001 micrograms/liter for freshwater and marine aquatic life.
Remarks: Fire ant control using baits. Transported to estuaries and accumulates in animals. Persistent in birds; extremely toxic to aquatic organisms. Note: See recent regulations on use of Mirex.

Parathion

Criterion: 0.04 micrograms/liter for both freshwater and marine aquatic life.
Remarks: An organophosphorous pesticide. Acutely toxic to aquatic invertebrates; and kills marine fish.

Toxaphene

Criterion: 0.005 micrograms/liter for both freshwater and marine aquatic life.
Remarks: Persistent and bioaccumulates. Note: See current EPA regulations regarding prohibited substances.

pH

Criterion: 6.5-9.0 for freshwater aquatic life.
6.5-8.5 for marine aquatic life.
Remarks: Toxicity of pollutants may increase as pH is lowered; rapid pH changes due to waste discharges should be avoided; small changes in pH cause large shifts in metallic complexes; ammonia toxicity related to pH.

Phenol

Criterion: 1 microgram/liter for domestic water supply and to protect against fish flesh tainting.
Remarks: Direct toxicity to freshwater fish lowers available oxygen (high BOD); low oxygen, increased salinity, and increased temperature all enhance toxicity of phenol.

(continued)

Table 4-1. (Continued).

Phosphorous

Criterion: 0.10 micrograms/liter yellow (elemental) phosphorous for marine and estuarine waters.
Remarks: Phosphate is a key element in accelerated eutrophication of lakes; elemental phosphorous very toxic to fish; it bioaccumulates. Total P should not exceed 50 micrograms/liter in discharge to any stream at the point where it enters any lake or reservoir, nor 25 milligrams/liter within the lake or reservoir. To prevent plant nuisance growth, 100 milligrams/liter in flowing waters not discharging directly to lakes or impoundments.

Phthalate Esters

Criterion: 3 micrograms/liter for freshwater aquatic life.
Remarks: Organic compounds used in plasticizers, particularly in PVC's. Acute toxicity to fish quite low; affects growth and reproduction of animals.

Polychlorinated Biphenyls

Criterion: 0.001 micrograms/liter for freshwater and marine aquatic life and for consumers thereof.
Remarks: [illegible]; acute and chronic effects of PCB's have been described in a number of aquatic organisms: [illegible], invertebrates. Sensitive; bioaccumulation [illegible] affects [illegible] reproduction. [illegible]. [illegible] sensitive and may increase susceptibility to infectional agents.

Selenium

Criterion: For marine and freshwater aquatic life, 0.01 times the 96-hr LC50 as determined through bioassay using a sensitive resident species.

Silver

Criterion: For marine and freshwater aquatic life, 0.01 times the 96-hr LC50 as determined through bioassay using a sensitive resident species.
Remarks: Wide variation in the toxicity of silver compounds to aquatic life.

(Continued)

Table 4-1. (Continued).

Solids (dissolved) and Salinity

Criterion: 250 milligrams/liter for chlorides and sulfates in domestic water supplies.

Remarks: NTAC Report (1968) recommends that, to protect fish and other marine animals, isohaline patterns in estuaries not change by more than 10% of natural variation.

Solids (suspended, settleable) and Turbidity

Criterion: Should not decrease the depth-of-compensation point for photosynthetic activity by more than 10% from the seasonably established norm for aquatic life.

Remarks: Important parameters in water treatment; affect chlorination; affect fish growth, development of fish eggs and larvae; interfere with natural movements and migrations; reduce food available to fish; affect light penetration of water.

Sulfide-Hydrogen Sulfide

Criterion: 2 micrograms/liter undissociated H_2S for fish and other aquatic life, fresh and marine water.

Remarks: Constituents of many industrial wastes such as those from tanneries, paper mills, chemical plants; anaerobic decomposition of sewage major source; degree of hazard to aquatic life is dependent on the temperature, pH, and dissolved oxygen. Fish avoid if possible.

Tainting Substances

Criterion: Materials should not be present in concentrations that produce undesirable flavors detectable by organoleptic tests on edible portions of aquatic organisms.

Remarks: Implicated wastewaters include those from 2,4-D manufacturing plants, Kraft and neutral-sulfite pulping processes, municipal wastewater treatment, oily wastes, refinery wastes, phenolic wastes, and wastes from slaughterhouses.

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Table 4-1. (Continued).

Temperature

Criterion: Freshwater aquatic life

For any time of year, there are two upper limiting temperatures for a location (based on the important sensitive species found there at that time):

1. One limit consists of a maximum temperature for short exposures that is time dependent and is given by a species-specific equation.
2. The second value is a limit on the weekly average temperature that:
   a. In the cooler months (mid-October to mid-April in the north and December to February in the south) will protect against mortality of important species if the elevated plume temperature is suddenly dropped to the ambient temperature, with the limit being the acclimation temperature minus 2° C when the lower lethal threshold temperature equals the ambient water temperature (in some regions this limitation may also be applicable in summer).

or

   b. In the warmer months (April through October in the north and March through November in the south) is determined by adding to the physiological optimum temperature (usually for growth) a factor calculated as one-third of the difference between the ultimate upper incipient lethal temperature and the optimum temperature for the most sensitive important species (and appropriate life state) that normally is found at that location and time.

or

   c. During reproductive seasons (generally April through June and September through October in the north and March through May and October through November in the south) the limit is that temperature that meets site-specific requirements for successful migration, spawning, egg incubation, fry rearing, and other reproductive functions of important species. These local

(continued)

requirements should supersede all other requirements when they are applicable.

or

d. There is a site-specific limit that is found necessary to preserve normal species diversity or prevent appearance of nuisance organisms.

Marine aquatic life

In order to assure protection of the characteristic indigenous marine community of a water body segment from adverse thermal effects:

a. The maximum acceptable increase in the weekly average temperature due to artificial sources is 1° C (1.8° F) during all seasons of the year, providing the summer maxima are not exceeded; and

b. Daily temperature cycles characteristic of the water-body segment should not be altered in either amplitude or frequency.

Summer thermal maxima that define the upper thermal limits for the communities of the discharge area should be established on a site-specific basis. Baseline thermal conditions should be measured at a site where there is no unnatural thermal addition from any source in reasonable proximity to the thermal discharge (within 5 miles), and which has similar hydrography to that of the receiving waters at the discharge.

Remarks: See comprehensive reviews by various authors. See, for example, Coutant, C.C. in Jour. Water Poll. Cont. Fed.

Note: "Red Book" contains appendix with summary of thermal effects.

(continued)

Table 4-1. (Concluded).

Zinc	
Criterion:	For freshwater aquatic life, 0.01 times the 96-hr LC_{50} as determined through bioassay using a sensitive resident species.
Remarks:	Iron galvanizing and die casting prime sources; an increase in temperature and a decrease in dissolved oxygen increase toxicity of zinc; pH affects solubility.

Table 4-2. Ambient water quality criteria, 1980.

Note: Current EPA Water Quality Criteria listed here are taken from Volume I of The Treatability Manual.

Acenaphthene

Freshwater Life	The available data for acenaphthene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 1,700 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of acenaphthene to sensitive freshwater aquatic animals, but toxicity to freshwater algae occur at concentrations as low as 520 micrograms/liter.
Saltwater Life	The available data for acenaphthene indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 970 and 710 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. Toxicity to algae occurs at concentrations as low as 500 micrograms/liter.

Acrolein

Freshwater Life	The available data for acrolein indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 68 and 21 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for acrolein indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 55 micrograms/liter and would occur at lower concentations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of acrolein to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Acrylonitrile	
Freshwater Life	The available data for acrylonitrile indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 7,550 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of acrylonitrile to sensitive freshwater aquatic life, but mortality occurs at concentrations as low as 2,600 micrograms/liter in a fish species exposed for 30 days.
Saltwater Life	Only one saltwater species has been tested with acrylonitrile and no statement can be made concerning acute or chronic toxicity.
Aldrin-Dieldrin	
Dieldrin	
Freshwater Life	For dieldrin the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.0019 micrograms/liter as a 24-hr average and the concentration should not exceed 2.5 milligrams/liter at any time.
Saltwater Life	For dieldrin the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.0019 micrograms/liter as a 24-hr average and the concentration should not exceed 0.71 milligrams/liter at any time.
Aldrin	
Freshwater Life	For freshwater aquatic life the concentration of aldrin should not exceed 3.4 micrograms/liter at any time. No data are available concerning the chronic toxicity of aldrin to sensitive freshwater aquatic life.
Saltwater Life	For saltwater aquatic life the concentration of aldrin should not exceed 1.3 micrograms/liter at any time. No data are available concerning the chronic toxicity of aldrin to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Antimony	
Freshwater Life	The available data for antimony indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 9,000 and 1,600 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. Toxicity to algae occurs at concentrations as low as 610 micrograms/liter.
Saltwater Life	No saltwater organisms have been adequately tested with antimony, and no statement can be made concerning acute or chronic toxicity.
Arsenic	
Freshwater Life	For freshwater aquatic life the concentration of total recoverable trivalent inorganic arsenic should not exceed 440 micrograms/liter at any time. Short-term effects on embryos and larvae of aquatic vertebrate species have been shown to occur at concentrations as low as 40 micrograms/liter.
Saltwater Life	The available data for total recoverable trivalent inorganic arsenic indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 508 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of trivalent inorganic arsenic to sensitive saltwater aquatic life.
Asbestos	
Freshwater Life	No freshwater organisms have been tested with any asbestiform mineral and no statement can be made concerning acute or chronic toxicity.
Saltwater Life	No saltwater organisms have been tested with any asbestiform mineral and no statement can be made concerning acute or chronic toxicity.

(continued)

Table 4-2. (Continued).

Benzene	
Freshwater Life	The available data for benzene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 5,300 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of benzene to sensitive freshwater aquatic life.
Saltwater Life	The available data for benzene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 5,100 micrograms/liter and would occur at lower concentrations among species a that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of benzene to sensitive saltwater aquatic life, but adverse effects occur at concentrations as low as 700 micrograms/liter with a fish species exposed for 168 days.
Benzidine	
Freshwater Life	The available data for benzidine indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 2,500 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity to benzidine to sensitive freshwater aquatic life.
Saltwater Life	No saltwater organisms have been tested with benzidine and no statement can be made concerning acute and chronic toxicity.
Beryllium	
Freshwater Life	The available data for beryllium indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 130 and 5.3 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. Hardness has a substantial effect on toxicity.
Saltwater Life	None.

(continued)

Table 4-2. (Continued).

Cadmium

Freshwater Life	For total recoverable cadmium the criterion (in micrograms/liter) to protect freshwater aquatic life as derived using the Guidelines varies with the hardness of the water. For example, a hardnesses of 50, 100, and 200 milligrams/liter as $CaCO_3$ the criteria are 0.012, 0.025, and 0.051 micrograms/liter respectively, and the concentration of total recoverable cadmium should not exceed 1.5, 3.0 and 6.3 micrograms/liter respectively, at any time.
Saltwater Life	For total recoverable cadmium the criterion to protect saltwater aquatic life as derived using the Guidelines is 4.5 micrograms/liter as a 24-hr average and the concentration should not exceed 59 micrograms/liter at any time.

Carbon Tetrachloride

Freshwater Life	The available data for carbon tetrachloride indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 35,200 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of carbon tetrachloride to sensitive freshwater aquatic life.
Saltwater Life	The available data for carbon tetrachloride indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 50,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of carbon tetrachloride to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Chlordane

Freshwater Life	For chlordane the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.0043 micrograms/liter as a 24-hr average and the concentration should not exceed 2.4 micrograms/liter at any time.
Saltwater Life	For chlordane the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.0040 micrograms/liter as a 24-hr average and the concentration should not exceed 0.04 micrograms/liter at any time.

Chlorinated Benzenes

Freshwater Life	The available data for chlorinated benzenes indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 250 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of the more toxic of the chlorinated benzenes to sensitive freshwater aquatic life but toxicity occurs at concentrations as low as 50 micrograms/liter for a fish species exposed for 7.5 days.
Saltwater Life	The available data for chlorinated benzenes indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 160 and 129 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

Chlorinated Ethanes

Freshwater Life	The available freshwater data for chlorinated ethanes indicate that toxicity increases greatly with increasing chlorination, and that acute toxicity occurs at concentrations as low as 118,000 micrograms/liter for 1,2-dichloroethane, 18,000 micrograms/liter for two trichloroethanes, 9,320 micrograms/liter for two tetrachloroethanes, 7,240 micrograms/liter for pentachloroethane, and 980 micrograms/liter for hexachloroethane. Chronic toxicity occurs at concentrations as low as 20,000 micrograms/ liter for 1,2-dichloroethane, 9,400 micrograms/ liter for 1,1,2-trichloroethane, 2,400 micrograms/liter for 1,1,2,2-tetrachloroethane, 1,100 micrograms/liter for pentachloroethane, and 540 micrograms/liter for hexachloroethane. Acute and chronic toxicity would occur at lower concentrations among species that are more sensitive.
Saltwater Life	The available saltwater data for chlorinated ethanes indicate that toxicity increases greatly with increasing chlorination and that acute toxicity to fish and invertebrate species occurs at concentrations as low as 113,000 micrograms/liter for 1,2-dichloroethane, 31,200 micrograms/liter for 1,1,1-trichloroethane, 9,020 micrograms/liter for 1,1,2,2-tetrachloroethane, 390 micrograms/liter for pentachloroethane, and 940 micrograms for hexachloroethane. Chronic toxicity occurs at concentrations as low as 281 micrograms/liter for pentachloroethane. Acute and chronic toxicity would occur at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

Chlorinated Naphthalenes

Freshwater Life	The available data for chlorinated naphthalenes indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 1,600 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of chlorinated naphthalenes to sensitive freshwater aquatic life.
Saltwater Life	The available data for chlorinated napthalenes indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 7.5 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of chlorinated naphthalenes to sensitive saltwater aquatic life.

Chlorinated Phenols

Freshwater Life	The available freshwater data for chlorinated phenols indicate that toxicity generally increases with increasing chlorination, and that acute toxicity occurs at concentrations as low as 30 micrograms/liter for 4-chloro-3-methylphenol to greater than 500,000 micrograms/liter for other compounds. Chronic toxicity occurs at concentrations as low as 970 micrograms/liter for 2,4,6-trichlorophenol. Acute and chronic toxicity would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available saltwater data for chlorinated phenols indicate that toxicity generally increases with increasing chlorinationa nd that acute toxicity occurs at concenrations as low as 440 micrograms/liter for 2,3,5,8-tetrachlorophenol and 29,700 micrograms/liter for 4-chlorophenol. Acute toxicity would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of chlorinated phenols to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued)

2-Chlorophenol

Freshwater Life	The available data for 2-chlorophenol indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 4,380 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of 2-chlorophenol to sensitive freshwater aquatic life but flavor impairment occurs in one species of fish at concentrations as low as 2,000 micrograms/liter.
Saltwater Life	No saltwater organisms have been tested with 2-chlorophenol and no statement can be made concerning acute and chronic toxicity.

Chloroalkyl Ethers

Freshwater Life	The available data for chloroalkyl ethers indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 238,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of chloroalkyl ethers to sensitive freshwater aquatic life.
Saltwater Life	No saltwater organisms have been tested with any chloroalkyl ether and no statement can be made concerning acute and chronic toxicity.

(continued)

Table 4-2. (Continued).

Chloroform	
Freshwater Life	The available data for chloroform indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 28,900 micrograms/liter and would occur at lower concentrations among species that are more sensitive than the three tested species. Twenty-seven-day LC_{50} values indicate that chronic toxicity occurs at concentrations as low as 1,240 micrograms/liter and could occur at lower concentrations among species or other life stages that are more sensitive than the earliest life-cycle stage of the rainbow trout.
Saltwater Life	The data base for saltwater species is limited to one test and no statement can be made concerning acute or chronic toxicity.

(continued)

Table 4-2. (Continued).

Chromium	
Freshwater Life	For total recoverable hexavalent chromium the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.29 micrograms/liter as a 24-hr average and teh concentration should not exceed 21 micrograms/liter at any time. For freshwater aquatic life the concentration (in micrograms/liter) of total recoverable trivalent chromium should not exceed the numerical value given by $e(1.08(\ln(\text{hardness})) + 3.48)$ at any time. For example, at hardnesses of 50,100, and 200 milligrams/liter as $CaCO_3$, the concentration of total recoverable trivalent chromium should not exceed 2,200, 4,700, and 9,900 micrograms/liter respectively, at any time. The available data indicate that chronic toxicity to freshwater aquatic life occurs at concentrations as low as 44 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	For total recoverable hexavalent chromium the criterion to protect saltwater aquatic life as derived using the Guidelines is 18 micrograms/liter as a 24-hr average and the concentration should not exceed 1,260 micrograms/liter at any time. For total recoverable trivalent chromium, the available data indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 10,300 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of trivalent chromium to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Copper

Freshwater Life	For total recoverable copper the criterion to protect freshwater aquatic life as derived using the Guidelines is 5.6 micrograms/liter as a 24-hr average and the concentration (in micrograms/liter) should not exceed the numerical value given by $e(0.94(\ln(\text{hardness})) - 1.23)$ at any time. For example, at hardnesses of 50, 100, and 200 milligrams/liter $CaCO_3$, the concentration of total recoverable copper should not exceed 12, 22, and 43 micrograms/liter at any time.
Saltwater Life	For total recoverable copper the criterion to protect saltwater aquatic life as derived using the Guidelines is 4.0 micrograms/liter as a 24-hr average and the concentrations should not exceed 23 micrograms/liter at any time.

Cyanide

Freshwater Life	For free cyanide (sum of cyanide present as HCN and CN^-, expressed as CN) the criterion to protect freshwater aquatic life as derived using the Guidelines is 3.5 micrograms/liter as a 24-hr average and the concentration should not exceed 52 micrograms/liter at any time.
Saltwater Life	The available data for free cyanide (sum of cyanide present as HCN and CN^-, expressed as CN) indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 30 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. If the acute-chronic ratio for saltwater organisms is similar to that for freshwater organisms, chronic toxicity would occur at concentrations as low as 2.0 micrograms/liter for the tested species and at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

DDT	
Freshwater Life	For DDT and its metabolites the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.0010 micrograms/liter as a 24-hr average and the concentration should not exceed 1.1 micrograms/liter at any time.
Saltwater Life	For DDT and its metabolites the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.0010 micrograms/liter as a 24-hr average and the concentration should not exceed 0.13 micrograms/liter at any time.
TDE	
Freshwater Life	The available data for TDE indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 0.6 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of TDE to sensitive freshwater aquatic life.
Saltwater Life	The available data for TDE indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 3.6 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of TDE to sensitive saltwater aquatic life.
DDE	
Freshwater Life	The available data for DDE indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 1,050 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of DDE to sensitive freshwater aquatic life.
Saltwater Life	The available data for DDE indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 14 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of DDE to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Dichlorobenzenes	
Freshwater Life	The available data for dichlorobenzenes indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 1,120 and 763 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for dichlorobenzenes indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 1,970 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of dichlorobenzenes to sensitive saltwater aquatic life.
Dichlorobenzidines	
Freshwater Life	The data base available for dichlorobenzidines and freshwater organisms is limited to one test on bioconcentration of 3,3'-dichlorobenzidine and no statement can be made concerning acute or chronic toxicity.
Saltwater Life	No saltwater organisms have been tested with any dichlorobenzidine and no statement can be made concerning acute or chronic toxicity.
2,4-Dichlorophenol	
Freshwater Life	The available data for 2,4-dichlorophenol indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 2,020 and 365 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. Mortality to early life stages of one species of fish occurs at concentrations as low as 70 micrograms/liter.
Saltwater Life	Only one test has been conducted on saltwater organisms with 2,4-dichlorophenol and no statement can be made concerning acute or chronic toxicity.

(continued)

Table 4-2. (Continued).

Dichloroethylenes	
Freshwater Life	The available data for dichloroethylenes indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 11,600 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of dichlorethylenes to sensitive freshwater aquatic life.
Saltwater Life	The available data for dichloroethylenes indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 224,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of dichloroethylenes to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Dichloropropanes (Dichloropropenes)

Freshwater Life	The available data for dichloropropanes indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 23,000 and 5,700 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. The available data for dichloropropenes indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 6,060 and 244 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for dichloropropanes indicate that acute and chronic toxicity to saltwater aquatic life occurs at concentrations as low as 10,300 and 3,040 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. The available data for dichloropropenes indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 790 micrograms/liter, and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of dichloropropenes to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

2,4-Dimethylphenol

Freshwater Life	The available data for 2,4-dimethylphenol indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 2,120 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of dimethylphenol to sensitive freshwater aquatic life.
Saltwater Life	No saltwater organisms have been tested with 2,4-dimethylphenol and no statement can be made concerning acute and chronic toxicity.

2,4-Dinitrotoluene

Freshwater Life	The available data for 2,4-dinitrotoluene indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 330 and 230 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for 2,4-dinitrotoluenes indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 590 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of 2,4-dinitrotoluenes to sensitive saltwater aquatic life, but a decrease in algal cell numbers occurs at concentrations as low as 370 micrograms/liter.

(continued)

Table 4-2. (Continued).

1,2-Diphenylhydrazine	
Freshwater Life	The available data for 1,2-diphenylhydrazine indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 270 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of 1,2-diphenylhydrazine to sensitive freshwater aquatic life.
Saltwater Life	No saltwater organisms have been tested with 1,2-diphenylhydrazine and no statement can be made concerning acute and chronic toxicity.
Endosulfan	
Freshwater Life	For endosulfan the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.056 micrograms/liter as a 24-hr average and the concentration should not exceed 0.22 micrograms/liter at any time.
Saltwater Life	For endosulfan the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.0087 micrograms/liter as a 24-hr average and the concentration should not exceed 0.034 micrograms/liter at any time.
Endrin	
Freshwater Life	For endrin the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.0023 micrograms/liter as a 24-hr average and the concentration should not exceed 0.18 micrograms/liter at any time.
Saltwater Life	For endrin the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.0023 micrograms/liter as a 24-hr average and the concentration should not exceed 0.037 micrograms/liter at any time.

(continued)

Table 4-2. (Continued).

Ethylbenzene	
Freshwater Life	The available data for ethylbenzene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 32,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of ethylbenzene to sensitive freshwater aquatic life
Saltwater Life	The available data for ethylbenzene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 430 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of ethylbenzene to sensitive saltwater aquatic life.
Fluoranthene	
Freshwater Life	The available data for fluoranthene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 3980 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of fluoranthene to sensitive freshwater aquatic life.
Saltwater Life	The available data for fluoranthene indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 40 and 16 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

Haloethers

Freshwater Life	The available data for haloethers indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as loow as 360 and 122 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	No saltwater organisms have been tested with any haloether and no statement can be made concerning acute or chronic toxicity.

Halomethanes

Freshwater Life	The available data for halomethanes indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 11,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of halomethanes to sensitive freshwater aquatic life.
Saltwater Life	The available data for halomethanes indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 12,000 and 6,400 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. A decrease in algal cell numbers occurs at concentrations as low as 11,500 micrograms/liter at any time.

Heptachlor

Freshwater Life	Concentration should not exceed 0.0038 micrograms/liter as a 24-hr average and concentration should not exceed 0.52 micrograms/liter at any time.
Saltwater Life	For heptachlor the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.0036 micrograms/life as a 24-hr average and the concentration should not exceed 0.053 micrograms/liter at any time.

(continued)

Table 4-2. (Continued).

Hexachlorobutadiene	
Freshwater Life	The available data for hexachlorobutadiene indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 90 and 9.3 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for hexachlorobutadiene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 32 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of hexachlorobutadiene to sensitive saltwater aquatic life.
Lindane	
Freshwater Life	For lindane the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.080 micrograms/liter as a 24-hr average and the concentration should not exceed 2.0 micrograms/liter at any time.
Saltwater Life	For saltwater aquatic life the concentration of lindane should not exceed 0.16 micrograms/liter at any time. No data are available concerning the chronic toxicity of lindane to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

BHC

Freshwater Life	The available date for a mixture of isomers of BHC indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 100 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of a mixture of isomers of BHC to sensitive freshwater aquatic life.
Saltwater Life	The available date for a mixture of isomers of BHC indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 0.34 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of a mixture of isomers of BHC to sensitive saltwater aquatic life.

Hexachlorocyclopentadiene

Freshwater Life	The available data for hexachlorocyclopentadiene indicate that acute and chronic toxicity to freshwater aquatic life occurs at concentrations as low as 7.0 and 5.2 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data to hexachlorocyclopentadiene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 7.0 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of hexachlorocyclopentadiene to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Isophorone	
Freshwater Life	The available data for isophorone indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 117,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of isophorone to sensitive freshwater aquatic life.
Saltwater Life	The available data for isophorone indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 12,900 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of isophorone to sensitive saltwater aquatic life.
Lead	
Freshwater Life	For total recoverable lead the criterion (in micrograms/liter) to protect freshwater aquatic life as derived using the Guidelines is the numerical value given by $e(2.35(\ln(hardness)) - 9.48)$ as a 24-hr average and the concentration (in micrograms/liter) should not exceed the numerical value given by $e(1.22(\ln(hardness)) - 0.47)$ at any time. For example, at hardnesses of 50, 100, and 200 milligrams/liter as $CaCO_3$, the criteria are 0.75, 3.8 and 20 micrograms/liter respectively, as 24-hr averages, and the concentrations should not exceed 74, 170 and 400 micrograms/liter respectively, at any time.
Saltwater Life	The available data for total recoverable lead indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 668 and 25 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

Mercury	
Freshwater Life	For total recoverable mercury the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.00057 micrograms/liter as a 24-hr average and the concentration should not exceed 0.0017 micrograms/liter at any time.
Saltwater Life	For total recoverable mercury the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.025 micrograms/liter as a 24-hr average and the concentration should not exceed 3.7 micrograms/liter at any time. Note: Check latest literature and sources for mercury criteria.
Naphthalene	
Freshwater Life	The available data for naphthalene indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 2,300 and 620 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for naphthalene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 2,350 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of naphthalene to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Nickel	
Freshwater Life	For total recoverable nickel the criterion (in micrograms/liter) to protect freshwater aquatic life as derived using the Guidelines is the numerical value given by $e(0.76(\ln(hardness)) + 1.06)$ as a 24-hr average and the concentration (in micrograms/liter) should not exceed the numerical value given by $e(0.76(\ln(hardness)) + 4.02)$ at any time. For example, at hardnesses of 50, 100, and 200 milligrams/liter as $CaCO_3$, the criteria are 56, 96, and 160 micrograms/liter respectively, as 24-hr averages, and the concentrations should not exceed 1,100; 1,300; and 3,100 micrograms/liter respectively, at any time.
Saltwater Life	For total recoverable nickel the criterion to protect saltwater aquatic life as derived using the Guidelines is 7.1 micrograms/liter as a 24-hr average and the concentration should not exceed 140 micrograms/liter at any time.
Nitrobenzene	
Freshwater Life	The available data for nitrobenzene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 27,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No definitive data are available concerning the chronic toxicity of nitrobenzene to sensitive freshwater aquatic life.
Saltwater Life	The available data for nitrobenzene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 6,680 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of nitrobenzene to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Nitrophenols	
Freshwater Life	The available data for nitrophenols indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 230 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of nitrophenols to sensitive freshwater aquatic life, but toxicity to one species of algae occurs at concentrations as low as 150 micrograms/liter.
Saltwater Life	The available data for nitrophenols indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 4,850 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of nitrophenols to sensitive saltwater aquatic life.
Nitrosamines	
Freshwater Life	The available data for nitrosamines indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 5,850 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of nitrosamines to sensitive freshwater aquatic life.
Saltwater Life	The available data for nitrosamines indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 3,300,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of nitrosamines to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Pentachlorophenol	
Freshwater Life	The available data for penthachlorophenol indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 55 and 3.2 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for pentachlorophenol indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 53 and 34 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Phenol	
Freshwater Life	The available data for phenol indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 10,200 and 2,560 micrograms/liter respectively.
Saltwater Life	The available data for phenol indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 5,800 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of phenol to sensitive saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Phthalate Esters	
Freshwater Life	The available data for phthalate esters indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 940 and 3 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for phthalate esters indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 2944 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of phthalate esters to sensitive saltwater aquatic life but toxicity to one species of algae occurs at concentrations as low as 3.4 micrograms/liter.
Polychlorinated Biphenyls	
Freshwater Life	For polychlorinated biphenyls the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.014 microgram/liter as a 24-hr average. The available data indicate that acute toxicity to freshwater aquatic life probably will only occur at concentrations above 2.0 micrograms/liter and that the 24-hr average should provide adequate protection against acute toxicity.
Saltwater Life	For polychlorinated biphenyls the criterion to protect saltwater aquatic life as derived using the Guidelines is 0.030 micrograms/liter as a 24-hr average. The available data indicate that acute toxicity to saltwater aquatic life probably will only occur at concentrations above 10 micrograms/liter.

(continued)

Table 4-2. (Continued).

Polynuclear Aromatic Hydrocarbons (PAHs)

Freshwater Life	The limited freshwater data base available for polynuclear aromatic hydrocarbons, mostly from short-term bioconcentration studies with two compounds, does not permit a statement concerning acute or chronic toxicity.
Saltwater Life	The available data for polynuclear aromatic hydrocarbons indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 300 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of polynuclear aromatic hydrocarbons to sensitive saltwater aquatic life.

Selenium

Freshwater Life	For total recoverable inorganic selenite the criterion to protect freshwater aquatic life as derived using the Guidelines is 35 micrograms/liter as a 24-hr average and the concentration should not exceed 260 micrograms/liter at any time. The available data for inorganic selenate indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 760 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of inorganic selenate to sensitive freshwater aquatic life.
Saltwater Life	For total recoverable inorganic selenite the criterion to protect saltwater aquatic life as derived using the Guidelines is 54 micrograms/liter as a 24-hr average and the concentration should not exceed 410 micrograms/liter at any time. No data are available concerning the toxicity of inorganic selenate to saltwater aquatic life.

(continued)

Table 4-2. (Continued).

Silver	
Freshwater Life	For freshwater aquatic life the concentration (in micrograms/liter) of total recoverable silver should not exceed the numerical value given by $e(1.72(\ln(\text{hardness}) - 6.52))$ at any time. For example, at hardnesses of 50, 100, 200 milligrams/liter as $CaCO_3$ the concentration of total recoverable silver should not exceed 1.2, 4.1, and 13 micrograms/liter respectively, at any time. The available data indicate that chronic toxicity to freshwater aquatic life may occur at concentrations as low as 0.12 micrograms/liter.
Saltwater Life	For saltwater aquatic life the concentration of total recoverable silver should not exceed 2.3 micrograms/liter at any time. No data are available concerning the chronic toxicity of silver to sensitive saltwater aquatic life.
Tetrachloroethylene	
Freshwater Life	The available data for tetrachloroethylene indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 5,280 and 840 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.
Saltwater Life	The available data for tetrachloroethylene indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations low as 10,200 and 450 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

Thallium	
Freshwater Life	The available data for thallium indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 1,400 and 40 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested. Toxicity to one species of fish occurs at concentrations as low as 20 micrograms/liter after 2,600 hr of exposure.
Saltwater Life	The available data for thallium indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 2,130 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of thallium to sensitive saltwater aquatic life.
Toluene	
Freshwater Life	The available data for toluene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 17,500 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of toluene to sensitive freshwater aquatic life.
Saltwater Life	The available data for toluene indicate that acute and chronic toxicity to saltwater aquatic life occur at concentrations as low as 6,300 and 5,000 micrograms/liter respectively, and would occur at lower concentrations among species that are more sensitive than those tested.

(continued)

Table 4-2. (Continued).

Toxaphene	
Freshwater Life	For toxaphene the criterion to protect freshwater aquatic life as derived using the Guidelines is 0.013 micrograms/liter as a 24-hr average and the concentration should not exceed 1.6 micrograms/liter at any time.
Saltwater Life	For saltwater aquatic life the concentration of toxaphene should not exceed 0.070 micrograms/liter at any time. No data are available concerning the chronic toxicity of toxaphene to sensitive saltwater aquatic life.
Trichloroethylene	
Freshwater Life	The available data for trichloroethylene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 45,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive than those tested. No data are available concerning the chronic toxicity of trichloroethylene to sensitive freshwater aquatic life but adverse behavioral effects occur to one species at concentrations as low as 21,900 micrograms/liter.
Saltwater Life	The available data for trichloroethylene indicate that acute toxicity to saltwater aquatic life occurs at concentrations as low as 2,000 micrograms/liter and would occur at lower concentrations among species that are more sensitive that those tested. No data are available concerning the chronic toxicity of trichloroethylene to sensitive saltwater aquatic life.
Vinyl Chloride	
Freshwater Life	No freshwater organisms have been tested with vinyl chloride and no statement can be made concerning acute or chronic toxicity.
Saltwater Life	No saltwater organisms have been tested with vinyl chloride and no statement can be made concerning acute or chronic toxicity.

(continued)

Table 4-2. (Concluded).

Zinc	
Freshwater Life	For total recoverable zinc the criterion to protect freshwater aquatic life as derived using the Guidelines is 47 micrograms/liter as a 24-hr average and should not exceed the numerical values given by $e(0.83(\ln(\text{hardness})) + 1.95)$ at any time. For example, the concentration (in micrograms/liter) should not exceed, at hardnesses of 50, 100, and 200 milligrams/liter as $CaCO_3$ the concentration of total recoverable zinc should not exceed 180, 320, and 570 micrograms/liter at any time.
Saltwater Life	For total recoverable zinc the criterion to protect saltwater aquatic life as derived using the Guidelines is 58 micrograms/liter as a 24-hr average and the concentration should not exceed 170 micrograms/liter at any time.

Table 4-3. List of ambient water quality documents (including order numbers) published by EPA.

1. Acenaphthene, PB81-117289.
2. Acrolein, PB81-117277.
3. Acrylonitrile, PB81-117285.
4. Aldrin/Dieldrin, PB81-117301.
5. Antimony, PB81-117319.
6. Arsenic, PB81-117327.
7. Asbestos, PB81-117335.
8. Benzene, PB81-117293.
9. Benzidine PB81-117340.
10. Beryllium, PB81-117350.
11. Cadmium, PB81-117368.
12. Carbon tetrachloride, PB81-117378.
13. Chlordane, PB81-117384.
14. Chlorinated benzenes, PB81-117392.
15. Chlorinated ethanes, PB81-117400.
16. Chloroalkyl ethers, PB81-117418.
17. Chlorinated naphthalene, PB81-117426.
18. Chlorinated phenols, PB81-117434.
19. Chloroform, PB81-117442.
20. 2-chlorophenol, PB81-117459.
21. Chromium, PB81-117467.
22. Copper, PB81-117475.
23. Cyanides, PB81-117483.
24. DDT, PB81-117491.
25. Dichlorobenzenes, PB81-117509.
26. Dichlorobenzidine, PB81-117517.
27. Dichloroethylenes, PB81-117525.
28. 2,4-dichlorophenol, PB81-117533.
29. Dichloropropanes/propenes, PB81-117541.
30. 2,4-dimethylphenol, PB81-117558.
31. Dinitrotoluene, PB81-11786.
32. Diphenylhydrazine, PB81-117731.
33. Endosulfan, PB81-117574.
34. Endrin, PB81-117582.
35. Ethylbenzene, PB81-117590.
36. Fluoranthene, PB81-117608.
37. Haloethers, PB81-117616.
38. Halomethanes, PB81-117624.
39. Heptachlor, PB81-117632
40. Hexachlorobutadiene, PB81-117640.
41. Hexachlorocyclohexane, PB81-117657.
42. Hexachlorocyclopentadiene
43. Isophorone, PB81-117873.
44. Lead, PB81-117681.
45. Mercury, PB81-117699.
46. Naphthalene, PB81-117707.
47. Nickel, PB81-117715.
48. Nitrobenzene, PB81-117723.
49. Nitrophenols, PB81-117749.
50. Nitrosamines, PB81-117756.
51. Pentachlorophenol, PB81-117764.
52. Phenol, PB81-117772.
53. Phthalate esters, PB81-117780.
54. Polychlorinated biphenyls (PCBs), PB81-117798.
55. Polynuclear aromatic hydrocarbons, PB81-117806.
56. Selenium, PB81-117814.
57. Silver, PB81-117822.
58. Tetrachloroethylene, PB81-117380.
59. Thallium, PB81-117848.
60. Toluene, PB81-117855.
61. Toxaphene, PB81-117863.
62. Trichloroethylene, PB81-117871.
63. Vinyl chloride, PB81-117889.
64. Zinc, PB81-117897.

65. Complete set PB81-117251 $600.00

5. CRITERIA FOR THE SELECTION OF NPDES PERMITS FOR REVIEW

5.1 ASSUMPTIONS

Two courses of action are available to the Service for sorting out high-priority permits: (1) The Service can indicate to the state water-pollution control agency which types of permits the Service would like to review, or (2) the Service can screen all public notices and fact sheets concerning permit applications to identify those of concern to the Service, and then request a copy of the actual application for close scrutiny. There are problems with each approach. The Service should be most interested in those permits impinging on areas and species of concern to it; judgment of which permits fit its concerns should not be left to the states. In the second method, timing is very critical. The opportunity for affecting the permit decision may be missed unless the Service receives the permit application early in the process. By the time public notices are sent out, the permit writer may have already drafted the permit, which tends to "set it in concrete."

Note: Obviously, continuous close communication with EPA and the states is crucial if the Service is to have an effective role in the permit review process. Opportunities for "advance planning" with companies and the permit agencies can be developed so that the Service can receive early informal information about major industry activities, and sometimes even allow contact with such companies prior to their submission of a permit application.

Several assumptions are necessary if one is to find the following selection criteria useful. First, hard choices have to be made since Service personnel cannot intensively review all NPDES permits. Second, the Service will have more credibility and influence on water-quality improvement over the long run if the NPDES permits selected for review and intervention are those in which the Service has a clear interest in the outcome, and where accurate technical information can be presented. Third, in evaluating permit applications, the Service should focus on the protection of its lands and special facilities, and on the habitats of species of special concern.

Note: One reviewer of this handbook has suggested that the Service should be concerned with the protection of all water segments to ensure that the list of endangered species does not grow.

5.2 IDENTIFYING HIGH-RISK PERMITS

5.2.1 Industrial Discharge Permits

Step 1. Where is the discharge? Determine from the public notice and fact sheet the location of the facility and the wastewater discharges in relation to areas of primary concern to the Fish and Wildlife Service (See Chapter 6). Geographic areas (special purpose lands and facilities) of interest to the Service in general include:

- national wildlife refuges
- national fish hatcheries (water supplies)
- wetlands essential to migratory birds
- habitat of endangered or threatened species
- research facilities of the Service
- wetlands of special interest
- habitat of species of special interest to the Service (see section 6.4.1)
- water bodies that are interstate or international with significant fishery or wildlife issues, e.g., Chesapeake Bay.

A. If geographic areas of primary concern to the Service are not affected, it is probably not necessary to consider the permit further (except see below).

Note: Strict interpretation of the above areas should result in a much narrower range of NPDES permits being selected for action by the Service than the wide range of Section 10/404 permits requiring Service attention.

B. If areas of primary concern to the Service are likely to be affected, consider Step 2.

Step 2. What resources are at risk? Consider (in the context of the functional values of special purpose lands and facilities) the life history requirements of the species of concern and assess the potential vulnerability of each species to the obvious pollutants to be discharged.

Consider:

- fish migrations through the area
- life history stages present
- spawning habits and requirements
- benthic organisms present
- nesting, nursery, and wintering areas
- feeding habits and food chain
- risk of catastrophy to population
- magnitude of resource and its use by public.

A. If the potential for risk to species of concern is low, there may not be a need to consider the permit further, but see Step 3.

B. If risk to species of concern is significant, continue review of permit.

Note: At this point, obtain a copy of the permit application, if not already in hand.

Step 3. What pollutants are to be discharged? Considerable detective work may be required to determine the kinds and quantities of pollutants that will actually be disharged. The data provided in the permit application is only one source of information.

Note: For insight into the pollutants typically produced by various industries and data on pollutants found in wastewater effluents, consult the effluent limitation guidelines documents that EPA has developed for certain industry subcategories (e.g., Pulp, Paper, and Paperboard Mills Point Source Category Effluent Guidelines) 40 CFR Parts 430 and 431; Federal Register, 18 November 1982, 47(223)).

A. If high-risk pollutants are to be discharged, or an industry which typically discharges pollutants with high potential risk for fish and wildlife is the permit applicant, conduct a more intensive review of the permit application.

High-risk pollutants include:

- substances with high biochemical oxygen demand
- chlorinated hydrocarbon pesticides
- heavy metals
- hazardous wastes
- toxic pollutants.

High-risk industries and other sources include:

- pulp and paper mills
- iron and steel and metal finishing
- petroleum refining
- pesticides
- organic and inorganic chemicals
- hazardous waste processing
- minerals mining
- treatment works discharging into wetlands.

B. Determine whether discharge of conventional pollutants are likely to exceed published technology-based limitations or ambient water-quality criteria (see Chapter 4). If so, continue review of permit.

If neither 3A nor 3B applies, do not consider the permit further.

Step 4. How much pollutant will be discharged?

Consider:

- testing methods used and detection limits
- total daily load (see Form 2c)
- monthly average daily load (see Form 2c)
- mixing zone limitations (see Chapter 4)
- timing of discharge; daily, seasonal aspects
- production-based limits
- other permit conditions
- testing results included with application
- ambient (intake) water characteristics
- cumulative effects of other dischargers upstream
- total maximum daily load calculations
- waste-load allocations among dischargers
- ambient water-quality criteria for each pollutant
- pretreatment of wastewater by industry.

A. If the amount of pollutant, considering existing ambient conditions, does not exceed quality criteria, technology-based limitations, or state water quality standards for the stream segment affected, do not consider the permit further.

B. If technology-based effluent guidelines have not been published for the industry subcategory pollutants in question, or if the permit application is being considered on a "case by case" basis utilizing water-quality-based criteria, and "best professional judgment" is the basis for the permit conditions, or if you have reason to believe that not all pollutants or quantities are identified in the permit application, look more closely at the permit.

Step 5. What will happen to the pollutant? Determine the probable fate of the pollutants in the receiving waters. Predict whether the substance is likely to remain in quantity and in a harmful form. Consider possible interactions among pollutants and the influence of the receiving waters and the pollutant form.

Consider:

- chemical change
- persistence
- bioaccumulation and bioconcentration
- binding in sediments
- transport to downstream areas
- dilution
- synergistic and antagonistic reactions
- saltwater influence
- ionization and solubilization
- effects of water hardness, ph, and temperature.

A. If the pollutant is safely diluted, rapidly transported out of the area of concern, converted to innocuous form, or bound in sediments in a harmless form, do not consider the permit further.

B. If the pollutant is being added to an already heavily burdened stream, or concentration seems high in the mixing zone, or if cumulative effects, synergism, or persistence are factors,or if toxic pollutants that will accumulate in the sediments are likely to be recirculated, continue the permit review.

Note: A combination of several polluting substances at very low concentrations may be more toxic than the individual pollutants.

Step 6. What does the pollutant do? Assess the probable effects of the pollutants on primary aquatic life, i.e., all of the organisms at various trophic levels that support species of special concern to the Service.

Consider:

- metabolism
- temperature changes
- concentrations in mixing zones and effects on fish early lifestages, benthic organisms, motile forms, and spawning migrants
- effects of bioaccumulation on life of organisms and utilization by people
- acute toxicity
- chronic toxicity
- effect of pollutant on taste or odor of fish, shellfish, or wildlife
- influence on reproduction and mortality rates
- changes in pH
- biochemical oxygen demand (BOD)
- chemical oxygen demand (COD)
- total settleable solids (TSS)
- total organic carbon (TOC)
- dissolved oxygen levels.

A. If no significant effects on primary life forms are likely do not consider the permit further.

B. If levels of pollutants seem likely to produce adverse effects on individual organisms that will impair their survival or reproduction to the extent that the population will be threatened or their use by people impaired, then the permit should be selected for intensive review.

Notes: 1. Intensive review will be an iteration of the permit selection process with undoubtedly a need for more detailed information. This is the point at which the need for field studies and laboratory research requirements may begin to emerge. Service personnel should not hesitate to insist (through EPA and the State) that the permit applicant supply pollutant data and biological effects information, and if such data are nonexistent, insist that the applicant fund the necessary surveys, special studies, or biomonitoring.

2. See Appendix C, Case Studies, for examples of correspondence that have been used by the Service to request additional information and to request delay in decisions about permits until data requested is furnished and the Service has time to respond.

Step 7. Get help! After reviewing the kinds of pollutants and the quantities expected, and after completing a preliminary assessment of the living resources at risk, it is time to get help. Contact your Regional Resource Contaminant Assessment Specialist (see Table 5-1) for aid in interpreting the significance of the various pollutants and help in formulating a response to the permitting agency. Information sources useful in answering questions that arise in NPDES permit reviews are summarized in Table 5-2 (also see Chapter 6).

5.2.2 About Sewage Treatment Plants

The significance of sewage treatment plant permits to the Service depends upon the size of the facility, what it receives from industry, its relationship to wetlands, the category of treatment, whether a marine or freshwater outfall, and the condition of receiving waters. The effects of chlorination of the discharge, the biological oxygen demand on the receiving stream, and the possibilities of toxic substances being included in the waste stream are causes for concern by Service biologists reviewing publicly owned and private sewage treatment plant discharges.

Determine Service interest in sewage treatment plant permit applications by considering the following questions as part of the seven steps to identifying high-risk permits:

Is the discharge from a publicly owned treatment works that receives discharges from industry? You can get clues about the probable pollutants present from the list of contributors to the POTW. A list should be attached to the operator's permit application.

Is this a new source of pollution? (See NPDES regulations regarding New Sources and EIS requirements).

Is this permit application for a renewal of an existing permit covering a facility with a history of poor treatment of wastes? See State files for background on site and company history. Information will be included in the permit application, but check with State Water Quality Agency for background on types and levels of discharges if major modifications to treatment facilities are planned.

Is the permit for a major facility? What is the production capacity of the plant, e.g., in tons/day? A small facility such as a trailer park sewage system, or a small cannery may not warrant further investigation, whereas, a large regional publicly owned sewage treatment plant would.

What are ambient water conditions, i.e., stream flows, oxygen levels, temperature? The adequacy of the treatment plant will partially determine the characteristics of the effluent, but the volume of discharge in relation to stream conditions will determine the effects of conventional pollutants. Heavy flows of organics and nutrients into the receiving waters may result in excessive oxygen demand, which in turn causes mortality of fish and fish food organisms, objectionable algal growths, odors, etc. Summertime periods of high temperatures and low stream flows warrant close attention.

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Are wetlands involved in the treatment? Consider the location of planned sewage treatment lagoons in relation to wetlands. What is the capacity of the lagoons; are they large enough to allow adequate treatment of effluent before discharge into receiving waters and wetlands? (See an Engineering handbook). The probable future growth rate of population served by the facility is a factor.

Note: Under the Wetlands Executive Order, Number 11990, Federal agencies shall not finance new construction in wetlands unless there is no practical alternative, etc. Nonetheless, EPA seems to be fostering the development of treatment of wastes "ecologically" by encouraging and providing guidelines for utilizing wetlands for sewage treatment.

Will the discharge enter directly into a marine ecosystem? NPDES permits are required for POTW to discharge into the oceans, along with effluent limitations to meet Best Practicable Waste Treatment Technology by July 1, 1983.

Keep in mind the differences between discharges into freshwater and those into marine waters. Most regulations are related to effluent quality requirements for discharges into inland lakes and freshwater streams. Thus, they are designed to severely limit the discharge of materials that affect BOD, suspended solids, coliforms, etc., but which may not be of significance in the ocean. Discharges into the ocean usually result in a much more rapid dilution. Many substances react differently in saltwater than they do in freshwater. Concentrations of organic matter and nutrients are not necessarily harmful in the oceans, and secondary or advanced waste treatment may not have a significant effect on marine ecosystems. Toxic materials, on the other hand, are serious problems near ocean outfalls just as they are in freshwater situations.

Note: Some waste-treatment facilities discharge sludge in ocean outfalls. Sludge contains all of the toxic substances, heavy metals, etc., removed by treatment. If these are discharged in sludge into the receiving waters, the whole treatment process would seem to be a wasted effort. Keep in mind that sludge resulting from a POTW will end up in the environment someplace.

Are there ancillary considerations such as holding ponds, storm runoff, etc.? What is the worst possible scenario such as a flood, hurricane, etc.?

Note: For information about storm-sewer requirements see latest EPA regulations. The requirements for storm-water runoff were substantially modified, dividing discharges into two categories: (1) contaminated and designated significant contributors of pollution, and those located at industrial facilities, and (2) discharges required to be permitted under 40 CFR Part 122.57. All others are not considered point sources and are not subject to NPDES. See Proposed Rules, *Federal Register,* 18 November 1982, 47(223).

Table 5-1. Regional resource contaminant assessment specialists, 1984.

Region 1

David Lenhart
U.S. Fish and Wildlife Service
Lloyd 500 Building, Suite 1692
500 NE Multnomah Street
Portland, Oregon 97232
Telephone Nos. FTS 8-429-6160
Comm. 503-231-6161

Region 2

Charlie Sanchez, Jr
U.S. Fish and Wildlife Service
Post Office Box 4407
Albuquerque, New Mexico 87196
Telephone Nos. FTS 8-474-2324
Comm. 505-766-2324

Region 3

James B. Edler
U.S. Fish and Wildlife Service
Bishop Henry Whipple Federal Bldg.
Room 642
Twin Cities, Minnesota 55111
Telephone Nos. FTS 8-725-3536
Comm. 612-725-3536

Region 4

W. Waynon Johnson
U.S. Fish and Wildlife Service
Richard B. Russell Federal Bldg.
75 Spring Street, S.W., Suite 1276
Atlanta, Georgia 30303
Telephone Nos. FTS 8-242-6343
Comm. 404-221-6343

Region 5

Arnold Julin
U.S. Fish and Wildlife Service
One Gateway Center
Newton Corner, Mass. 02158
Telephone Nos. FTS 8-829-9397
Comm. 617-965-5100

Region 6

Eugene W. Hansmann
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225
Telephone Nos. FTS 8-234-4616
Comm. 303-234-4616

Region 7

Howard Metsker
U.S. Fish and Wildlife Service
1011 East Tudor Road (ARD-EN)
Anchorage, Alaska 99503
Telephone Nos. FTS 8-399-0150
Ask Operator for: 907-263-3510

Table 5-2. Summary of information sources for permit reviews.

Permit review questions	Sources of information
What resources are at risk?	• Public notice • Species distribution and catch records • Sampling results • Scientific literature • Maps.
What pollutants are involved for the industry subcategory?	• Fact sheet, public notice • Statement of basis • The permit application • Testing data including pre-treatment and effluent samples • The Treatability Manual.
What levels of pollutants are expected in discharge?	• Permit application • Draft permit • Effluent guidelines • Effluent sampling.
What are ambient water conditions for the stream segment of concern?	• Field tests for BOD, COD flows, nutrients, toxics, dissolved oxygen • Applicant's records of intake water characteristics • Other NPDES permits • Biological indices.
What is the assimilative capacity of the stream?	• Water quality models • Oxygen sag studies.
What are the standards to be met?	• National water-quality criteria • State stream classification • Site-specific criteria.
What is the total maximum daily load of pollutants?	• Development documents for effluent guidelines • TMDL methods.

(continued)

Table 5-2. (Concluded).

Permit review questions	Sources of information
How is waste load to be allocated among dischargers?	• Site-specific criteria • Allocation methods • Water-quality standards • Effluent guidelines • Calculation of mixing zones.
What are likely to be the biological effects of the proposed discharge?	• Literature reviews of the effects of pollutants on water quality and aquatic life • Bioassays of facility effluents • Special biological studies.

6. SOURCES OF INFORMATION

6.1 PUBLICATIONS ESSENTIAL TO FIELD OFFICES

This chapter is an introduction to sources of information useful in reviewing NPDES permits. The reference materials listed here should be available to the field office staff directly either by subscription, or easily accessible in libraries. Instructions for obtaining EPA and other publications are included here. Other useful publications are cited in the References chapter.

6.1.1 Priority EPA Publications for Field Offices

- Ambient Water Quality Criteria Documents for specific pollutants (Chapter 4 of this Handbook has a condensation.)
- EPA Regulations for the NPDES Program. The detailed regulations for the NPDES program are contained in the Consolidated Permit Regulations, 40 CFR, Parts 122, 123, 124, and 125 (Federal Register, 19 May 1980, 45(98), and 1 July 1983).
- EPA Development Documents for Final Effluent Limitations Guidelines for various point-source categories and subcategories of industries
- Handbook for Sampling and Sample Preservation of Water and Wastewater
- Office of Research and Development Publications Announcement
- The Treatability Manual
- Quality Criteria for Water ("The Red Book")
- Individual EPA Final Effluent Guidelines for various point source categories
- EPA Office of Water Regulations and Standards Technical Guidance Manual for Performing Waste-load Allocations, which includes information on water-quality modeling, selecting design conditions for modeling, and selecting permit averaging periods.

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6.1.2 Priority Fish and Wildlife Service Publications

- Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates, by Johnson and Finley
- Regional Resource Plans
- Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12 of July 27, 1983
- The Effects of Air Pollution and Acid Rains on Fish, Wildlife, and Their Habitats, by Eastern Energy and Land Use Team (see particularly "Potential Impacts of Low pH on Fish and Fish Populations" by Fritz)
- Species Profiles, HSI Models.

6.1.3 Recommended Journals for Field Offices

- Journal of the Water Pollution Control Federation, particularly the annual literature review issue.
- Bulletin of Environmental Contamination and Toxicology
- Transactions of the American Fisheries Society
- Canadian Journal of Fisheries and Aquatic Sciences

6.1.4 Other Priority Publications

- A Review of the EPA Red Book: Quality Criteria for Water by American Fisheries Society.
- Water Quality Criteria by McKee and Wolf
- American Society for Testing and Materials publications
- The Toxic Substances Dilemma by the National Wildlife Federation
- The Federal Register (a copy is in Appendix D)
- The Code of Federal Regulations
- The Clean Water Act.
- Current Contents by Institute for Scientific Information, Inc.

5.2 ORDERING INFORMATION

6.2.1 About NTIS

The National Technical Information Service (NTIS), an agency of the U.S. Department of Commerce, is the central source for the public sale of U.S. Government-sponsored research, development, and engineering reports, as well as foreign technical reports and other analyses prepared by national and local government agencies, their contractors or grantees. It is the central source for Federally generated machine-processable data files and manages the Federal Software Center for intragovernment distribution.

Full summaries of current U.S. and foreign research reports and other specialied information, in hundreds of subject categories, are published regularly by NTIS in a wide variety of weekly newsletters, a biweekly journal, an annual index, and in various subscription formats for other Federal Agencies. The complete texts of the reports cited are sold in paper and microform.

Anyone seeking the latest technical reports or wanting to compile unique subject groups of abstracts may search the NTIS Bibliographic Data Base online, using the services of organizations that maintain the data base for public use through contractual relationships with NTIS. Or, the whole data base may be leased in machine readable form directly from NTIS. The more timely abstracts are continually grouped by NTIS into paperbound "Published Searches," covering some 3,500 topical subject areas.

Customers with well-defined continuing interests subscribe to a standing order microfiche service Selected Research in Microfiche, which enables them to automatically receive the full texts of only those documents relating to their individual requirements. A similar service provides the automatic distribution of paperbound reports.

NTIS sells its technical information products and services under the provisions of Title 15 of the U.S. Code (1151-7). The law establishes a clearinghouse for scientific, technical, and engineering information and directs NTIS to be self-supporting.

GPO, SupDocs, NTIS: how they differ. The Government Printing Office (GPO) is the principal printing agency of the Federal government. GPO is part of the Legislative Branch and derives its authority and direction from Congress. Its primary products and services are the printing and distribution of the Congressional Record, the Federal Register, and the Weekly Compilation of Presidential Documents. In addition, important and quick turnaround printing jobs are done within GPO while others are contracted commercially. GPO printing and binding operations are paid for by direct appropriations or by reimbursements from the Federal agencies requisitioning printing services.

The Superintendent of Documents (SupDocs) is responsible for the following: (1) the compilation of catalogs and indexes of Government publications; (2) the administration of the Federal Depository Library System. Funded by a direct appropriation from Congress, some 1,200 designated libraries receive free Federal publications of their choice; (3) distribution of publications specifically authorized by law or Congressional resolution.

NTIS numbering system explained. The series PB identifies document numbers assigned to NTIS. The two-digit number following PB is the year. PB82 shows that the document entered the NTIS collection in 1982. It is vital to identification of the document.

Published Searches bear numbers in the 8XXXXX range; subscription items, in the 9XXXXX range.

Within the numbers for subscription items the second through fourth digits identify the specific publication; the fifth and sixth digits, the issue number.

Example: A document, "Precision Measurements on Fibrous Glass Insulation," ordered from a 1981 issue of GRA71, carries the number PB81-239634. The PB81 must be included as part of the order number because "PB81" refers to the year of announcement; the numbers following the dash are the sequential addition to the PB series for the year. It is important to remember that PB82-239634 will not be a revised edition, a superseding document, or have any special relationship with another year's number. The PB82-series is unique for 1982 and each number has a meaning.

A few words about appearance. The appearance and legibility of the research reports provided to NTIS by the organizations varies. The documents received by NTIS may be the originals, or they may be copies of the originals, or copies of copies. Often, NTIS receives only a microfiche copy of an original document (or microfiche of copies) from which it must reproduce paper or microfiche copies.

NTIS customers have about a one in five chance of receiving full-text technical reports in attractive hardbound covers or colorful soft bindings sometimes provided to NTIS by the originating organizations.

6.2.2 The Bureau of National Affairs, Inc.

One method of keeping up-to-date about water pollution control developments is through a subscription to a biweekly bulletin and reference file, Water Pollution Control, published by The Bureau of National Afairs, Inc., a commercial publishing company. This publication provides timely information on permits, compliance and enforcement, standards, effluent guidelines, state programs, and information sources, among other topics. Federal regulations are reproduced, as are various state requirements.

A subscription to Water Pollution Control costs $297.00 per year.

Another publication of BNA, Inc., is Environment Reporter. This is a much broader based professional weekly notification and reference service covering pollution control and environmental protection. At $955.00 per year, this information service may be beyond the budget of ES field offices. Regional offices would find a subscription to be a well-used addition to their libraries.

Contact: The Bureau of National Affairs, Inc.
Attn: Customer Service
1231 25th St., N.W.
Washington, D.C. 20460

Telephone: (301) 258-1033

6.2.3 The Code of Federal Regulations (CFR)

CFR is a codification of the general and permanent rules published in the Federal Register by executive departments and agencies of the Federal government. The CFR is published as individual titles, each of which is divided into parts covering specific regulatory areas. For example, EPA's final regulations on state participation in the NPDES program appear in Title 40 -- Protection of Environment, Chapter 1 -- Environmental Protection Agency, Part 124.

The individual volumes of the CFR are revised each year. Title 40 is revised to include all final regulations up to July 1, but is not usually available until about December 1. Title 40, published as a 9-volume set, covers all of EPA's regulations, but regulations relevant to water pollution are available in the three volumes covering Parts 100-149, Parts 400-424, and Parts 425-end. Each of the volumes costs about $8.00.

6.2.4 EPA Regulatory Agenda

EPA publishes a semiannual (in April and October) Regulatory Agenda in the Federal Register as required by Executive Order No. 12291 and the Regulatory Flexibility Act. In it, EPA identifies regulations under development or review, and presents a timetable for future actions, and contacts within EPA for more information. To get on the mailing list for the Regulatory Agenda, call or write:

Penelope Parker
Regulation Management Staff
EPA, PM-223
Washington, D.C. 20460
Telephone: (202) 382-5480

6.2.5 The Federal Register

Access to the Federal Register and the Code of Federal Regulations (CFR) is critical to anyone attempting to maintain a current awareness of the constantly changing status of polution discharge regulations. Proposed EPA regulations are published in the Federal Register for public review and comment, and after receiving and evaluating public comments (including those of the Fish and Wildlife Service), final regulations are published in the Federal Register.

In order to keep up-to-date with current developments, access to the Federal Register is necessary. It is published every Federal workday and is available from the Superintendent of Documents, U.S. Government Printing Office, or the GPO bookstore.

Unless one is interested in a wide array of regulatory matters, a more efficient way of keeping up with recent regulatory changes is to get one of the monthly indexes to the Register.

The Federal Register Index is a cumulative listing of items published in the register during a calendar year, organized by dates published.

The list of CFR Sections Affected (LSA) lists all regulations changed during a given month, organized by chapters in the CFR.

The Index costs about $8.00 per year and LSA costs $10.00 per year. A one-year subscription to The Federal Register, including the Index and LSA, is $300.00.

Telephone (202) 783-3238 for assistance in ordering.

6.2.6 Institute for Scientific Information, Inc.

This source publishes Current Contents, another technical information dissemination source that is particularly useful in keeping up with technical material published in books and journals. Current Contents is published weekly and provides a listing of the tables of contents of a wide range of technical journals, for example, the Bulletin of Environmental Contamination and Toxicology. The information provided includes an author index and address directory and a publisher's address directory to facilitate contact with authors to obtain reprints.

A subscription to Current Contents (ask for the Agriculture, Biology, & Environmental Section) costs $245.00 for one year (52 weekly issues).

Address: Institute for Scientific Information, Inc.
Attn: Marketing Department
3501 Market Street
Philadelphia, PA 19104

6.2.7 Journal of the Water Pollution Control Federation -- Annual Literature Review Issue

Review of this publication is an excellent means of becoming familiar with, and keeping abreast of, technology developments in water-pollution control.

The annual literature review issue presents a concise compilation of all the relevant literature on water pollution published in the prior year throughout the world.

The Water Pollution Control Federation (WPCF) is composed of 41 member associations in the U.S. and it is affiliated with 23 organizations in other countries.

The reviews are presented by major sections (Adminstration, Chemical Species, Industrial Wastes, and Water Pollution) and subsections. For example, concise reviews of nonpoint sources, thermal effects, bioassays, and bioaccumulation and toxicity of heavy metals appear among other topics under the Water Pollution section.

Data are often presented in well-organized tables that are keyed to bibliographic references. The source of each statement made in a given review is identified in references included after each subsection, making it simple to obtain the original information. The name and address of each reviewer is given for correspondence purposes.

Note: Subscription to the Journal at $60.00 per year, including membership in the WPCF, is a real bargain.

Address: WPCF
2626 Pennsylvania Ave., N.W.
Washington, DC 20037

6.2.8 Publications Available from the American Society for Testing and Materials

The American Society for Testing and Materials (ASTM) is a nonprofit corporation formed in 1898 for the development of standards on characteristics and performance of materials, products, systems, and services, and the promotion of related knowledge. In ASTM terminology, standards include test methods, definitions, recommended practices, classifications, and specifications.

ASTM is our nation's primary management system for standard development, with more than 6,700 standards under copyright. It currently has 138 main technical committees (about 1,910 subcommittees and sections) working on standards in such diverse areas as steel, plastics, textiles, sports equipment, consumer product safety, security systems and equipment, technical aspects of product liability litigation, surgical implants, meat products, etc.

ASTM standards are developed by volunteers having expertise in specific areas who choose to work within the ASTM system -- producers, users, ultimate consumers, and representatives of government and academia. ASTM provides a forum within which these people can meet on a common ground to write standards that will best meet the needs of all interested parties. Most important, perhaps, the ASTM system adheres strictly to the principles of due process, assuring equal access and equal voice in the standards forum precluding discriminatory, anti-competitive effects.

Standards developed by the Society committees are published in the 66-volume Annual Book of ASTM Standards; the hundreds of technical papers and reports presented at ASTM symposia and meetings are published in books, the Society's monthly magazine "Standardization News," and in quarterly publications.

Note: The above information on ASTM publications was extracted from:

1983 Publications Catalog
ASTM
1916 Race St.
Philadelphia, PA 19103
Telephone: (215) 299-5585

6.2.9 The Treatability Manual

EPA published this five volume waste-water treatment manual to aid NPDES permit writers, particularly in setting BAT limitations where national guidelines have not been published.

Volume I supplies data on the specific compounds listed in Consolidated Permit Application Form 2C (NPDES), published May 19, 1980. It is intended to provide reference to physical data on the pollutants, their occurrence patterns, and methods of treatment and/or removal.

Volume II contains a general description of most of the primary industries (and their major subcategories) cited in the 1976 NRDC Consent Agreement. It includes:

- subcategory-wide or industry-wide tables covering: (1) the number of dischargers, (2) the types of pollution control systems in use, (3) the range of effluent flow rates and pollutant concentrations in controlled and uncontrolled waste streams, and (4) the efficiency of treatment systems, when available
- tabulated information on individual plants specifying industrial subcategory, treatment systems (including operating characteristics, when available), effluent pollutant concentrations, and influent pollutant concentrations, when available
- summary tables, when available, on BPT effluent guidelines and the status of BAT guidelines, New Source Performance Standards, and Pretreatment Standards.

Volume III summarizes information on the nature and effectiveness of various pollution-treatment technologies. A summary table for each technology is also provided showing the concentrations of various pollutants in the effluents.

Volume IV provides typical costs of treatment-unit operations.

Volume V is a summary designed to facilitate the use of the first four volumes, and includes a user's guide and several summary tables in the appendixes. Volume V also contains an executive summary of Volumes I through IV and a bibliography.

How to order. The Treatability Manual is available from the Government Printing Office (GPO).

Contact: Superintendent of Documents
U.S. Government Printing Office
Department 50
Washington, D.C. 20402

Stock Number: 055-000-00190-1

Cost per set: $47.00 (Volumes I - V)

6.3 EPA SOURCES OF INFORMATION AND CONSULTATION

6.3.1 US EPA Center for Environmental Research Information, ORD. Cincinnati, Ohio.

The Environmental Protection Agency Office of Research and Development publishes on a wide range of environmental topics. To make available better information for environmental decision making, EPA offers the following publications at no charge.

Project Summaries are short synopses of key findings of project reports. These reports present the results of recently completed research, development and engineering work. The summaries convey the essence of a project in terms comprehensible to the technical community at large. The complete reports are available only from the National Technical Information Service.

Titles of available publications are listed in The ORD Publications Announcement published three or four times a year to provide interested parties with access to the broad range of currently available documents produced by the Office of Research and Development (ORD). It will be mailed upon request to individuals who may wish to order this material. Orders are filled until the supply of a particular report is exhausted.

Project Summaries are subdivided by subject area. Publications announced for the first time are displayed in bold type. To order any publication one need only circle the corresponding order number on the order form included in the back of the Announcements and return the entire page, with your mailing label attached.

Contact: ORD Publications
P.O.Box 14249B
Cincinnati, Ohio 45214

Write to the same address also to get on the mailing list to receive the ORD Publications Announcement. Allow four weeks for delivery.

Sample Titles. Listed below are selected titles drawn from a lengthy list in the September, 1983 issue of ORD Publications Announcement.

21205 Guidelines for the use of chemicals in removing hazardous substance discharges (EPA-600/S2-81-205)

22086 The use of wetlands for water pollution control (EPA-600/S2-82-086)

23026 Design principles for wetland treatment systems (EPA-600/S2-83-026)

23033 Industrial process profiles for environmental use: Chapter 30, the electronic component manufacturing industry (EPA-600/S2-83-033)

32002 A review of aquatic habitat assessment methods (EPA-600/S3-82-002)

32037 Vegetative delineation of coastal salt marsh boundaries: evaluation of methodology (EPA-600/S3-82-037)

32053 Cadmium and Endrin Toxicity to Fish in Waters Containing Mineral Fibers (EPA-600/S3-82-053)

32058 Components identified in energy-related wastes and effluents (EPA-600/S3-82-058)

32064 Fate and biological effects of oil well drilling fluids in the marine environment: a literature review (EPA-600/S3-82-064)

32085 The characterization of the Chesapeake Bay: a systematic analysis of toxic trace elements (EPA-600/S3-82-085)

32087 Causes of papillomas on fish living in chlorinated sewage effluent (EPA-600/S3-82-087)

33021 Effects of Drilling Fluids on Embryo Development (EPA-600/S3-83-021)

42023 Determination of pesticides and PCBs in industrial and municipal wastewaters (EPA-600/S4-023)

6.3.2 Center for Water Quality Modeling, Athens, Ga.

The Center for Water Quality Modeling is located at EPA's Environmental Research Laboratory in Athens, Georgia. It has long been involved in the development and application of mathematical models that predict the transport and fate of water pollutants. For selected water-quality and pollutant-loading models, the center provides a central file and distribution point for computer programs and documentation. In addition, the center sponsors workshops and seminars that provide both generalized training in the use of models and specific instruction in the application of individual simulation techniques.

Modeling packages currently available include:

Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants. Simplified desk-top procedures for pollutant screening and waste-load assessment appropriate for hand calculators. It includes a discussion of the environmental chemistry of synthetic organic chemicals and metals; a chapter on waste-source estimation techniques; and simple methods for assessment of pollutant fate and transport in rivers, lakes, and estuaries. EPA 600/6-82-004a,b,c. Available from EPA, Cincinnati (FTS 684-7562) and from:

National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161
Telephone: (703) 487-4650
Volume a - PB83-153122
Volume b - PB83-153130
Volume c - PB83-100016

Exposure Analysis Modeling System (EXAMS). A steady-state screening model for the aquatic fate of synthetic organic chemicals. It includes sophisticated descriptions of chemical fate processes in the environment.

Stream Water Quality Model QUAL-II. A steady-state model for conventional pollutants in streams and well-mixed lakes. QUAL-II is widely used for waste-load allocation and permitting in the U.S. and other countries. It has a 15-yr history of application and is a proven, effective analysis tool.

Storm Water Management Model (SWMM). An urban drainage quantity/quality model. SWMM also has a long history of use in the U.S. and Canada for urban drainage assessment and design.

The Center periodically distributes, free of charge, a newsletter to Users Group members. The Users Group consists of a larger number of model users and developers in international, federal, regional, and state environmental management agencies and their consultants, and in private industry and academia. The newsletter provides helpful hints to model users and communicates information on scheduled workshops, model improvements and developments, the availability of technical documents, and planned meetings and conferences. More information about the Center and its supported models is available from:

Center for Water Quality Modeling
U.S. EPA
Athens, GA 30613
Telephone: (404) 546-3154
FTS 250-3171

Note: See water quality section References for related publications. EPA has developed a set of waste-load allocation guidance manuals that should be particularly useful if you wish to study the subject of waste-load allocation processes and water-quality modeling. These publications are rich in technical explanations of water-quality subjects such as biochemical oxygen demand/dissolved oxygen impacts, computer modeling of the fate and transport of toxic substances, etc. The reference is:

USEPA. 1983. Technical guidance manual for performing waste load allocations. Books I-IV. Office of Water Regulations and Standards. EPA. Washington, D.C.

Contact: Bill Vocke, (202) 382-7056; FTS: 382-7056

6.3.3 Corvallis Environmental Research Laboratory (CERL)

The Freshwater Division of this laboratory is putting emphasis on research to define currently attained and potential uses of aquatic ecosystems, and the environmental factors limiting uses. Current studies to develop methods to assess water quality requirements necessary to support aquatic-life uses (e.g., salmonid rearing) are applicable to the NPDES program. CERL is also determining requirements for such factors as dissolved oxygen, temperature, and nutrients as opposed to studies of criteria and limits for toxic compounds.

CERL is a good source of information about the effects of lowered dissolved oxygen from point-source and nonpoint-source pollution on aquatic life.

Note: If you are concerned about the effects of a given discharge on DO levels, the published and unpublished work of this laboratory should help.

Contact: Dr. Ronald R. Garton
Freshwater Divison
EPA
200 S.W. 35th St.
Corvallis, Oregon 97330

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6.3.4 Environmental Research Laboratory, Duluth, Minnesota

Main topics of research. The Duluth lab is EPA's center of expertise for research and technical support on freshwater aquatic toxicity. Their work involves research in the areas of water quality, pesticides, toxic substances, hazardous wastes, and acid rain.

Specialities. Acute/chronic bioassays, behavioral tests, bioaccumulation, complex effluents, culturing aquatic animals, ecosystems, environmental variables, experimental design and analyses, histotechnology, physiology/biochemistry, predictive toxicology, taxonomy, test methods development, chemical and physical compounds, environmental chemistry, and research support.

Contacts.

Director	Dr. Norbert A. Jaworski	FTS 783-9522
Associate Director, Program Operations	Bernard R. Jones	FTS 783-9548
Associate Director, Research Operations	Dr. Rosemarie C. Russo	FTS 783-9572

Research branches.

Energy/environment	Dr. Gary E. Glass	FTS 783-9526
Hazardous Waste	Dr. Philip M. Cook	FTS 783-9523
Toxic Substances	Dr. Gilman D. Veith	FTS 783-9534
Pesticides	Richard E. Siefert	FTS 783-9552
Water Quality	Nelson A. Thomas	FTS 783-9702

Address: U.S. Environmental Protection Agency
Environmental Research Lab
6201 Congdon Blvd.
Duluth, MN 55804

Comm. (218) 727-6692 and extension
(last three digits of the FTS number)

6.3.5 EPA Environmental Monitoring and Support Laboratories (EMSL's)

There are three EMSL's: in general, the Las Vegas facility conducts research on hazardous waste monitoring; the Cincinnati facility, water and wastewater monitoring; and the Research Triangle Park facility, air monitoring. These laboratories develop the measurement and quality assurance techniques to assure effective environmental monitoring.

Quality control samples are furnished by EMSL-Cincinnati without charge to interested governmental, industrial, commercial, and private laboratories for use as secondary checks on their within-laboratory QC programs. The samples, provided with true values, are intended as independent checks of technique, methodology, and standards, not as replacement for the standards, replicates or spike samples run routinely as part of the laboratory's own QC program.

There is no certification or other formal evaluative function resulting from the use of QC samples and data return is not expected. The QC Sample Program covers the ambient water quality, drinking water, water pollution, priority pollutant, hazardous, and toxic waste programs for chemical, biological, and microbiological parameters.

EMSL-Cincinnati also maintains the USEPA Repository for Toxic and Hazardous Materials to provide a continuing source of calibration materials, standards, reference compounds, and spiking solutions for all trace organics of interest to the Agency, not including pesticides or radioisotopes, which are available from EMSL-Las Vegas, nor trace organic air pollutant calibrants, available from EMSL-Research Triangle Park. The Repository provides support for the ambient monitoring, drinking water, National Pollutant Discharge Elimination System (NPDES) priority pollutants, hazardous waste/solid waste, and toxics programs.

Some examples of publications by EMSL's

Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater. EPA-600/4-82-057

Application and Evaluation of Analytical Procedures for Trace Metals, Total Cyanide, and Phenolics. EPA 600/S4-82-001. NTIS PB82-218512

Bibliography on Hazardous Materials Analysis Methods. NTIS PB81-213258

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If you are interested in analytical procedures for chemical analysis, aquatic biology, microbiology, quality assurance, or sampling and monitoring systems. Write to get on the Quality Assurance Newsletter mailing list, indicating your areas of interest and FWS affiliation. The address is:

Betty J. Thomas
U.S. EPA
EMSL
Cincinnati, OH 45268

EMSL's can be reached by writing to the following:

U.S. Environmental Protection Agency
Environmental Monitoring Systems Laboratory
Las Vegas, NV 89114

U.S. Environmental Protection Agency
Environmental Monitoring Systems Laboratory
Research Triangle Park, NC 27711

U.S. Environmental Protection Agency
Environmental Monitoring and Support Laboratory
Cincinnati, OH 45268

U.S. Environmental Protection Agency (RD-675)
Office of Exploratory Research
Quality Assurance Management Staff
Washington, D.C. 20460

U.S. Environmental Protection Agency (RD-680)
Office of Monitoring Systems
and Quality Assurance
Water and Waste Management
Monitoring Research Division
Washington, D.C. 20460

6.3.6 Environmental Research Laboratory, Gulf Breeze, Florida

This is EPA's primary center of expertise for providing integrated aquatic-hazard assessment of toxic chemical substances in marine and estuarine environments. Emphasis is on the Gulf of Mexico and subtropical ecosystems of the South Atlantic coast. Programs include information for water-quality criteria, pesticide registration guidelines, toxicity testing, and studies of biodegradation and bioconcentration of hazardous compounds. The fate and effects of carcinogens, mutagens, and teratogens in coastal waters and in natural fish and shellfish populations are determined.

The Process and Effects Branch of this laboratory assists States and other Federal offices in evaluation of persistence and bioaccumulation of toxic compounds to determine their ecological significance and potential hazard to the environment.

Among others, data are available on eight hazardous pesticides: acephate, EPN, methyl parathion, phorate, aldicarb, carophenothion, DEF, and ethoprop. Information about the potential hazards of using these and organophosphate and pyrethroid compounds in and near estuaries is available, as well as data on the effects of pentochlorophenol. ERL, Gulf Breeze, is also a source of information about chlorination effects in seawater and fish carcinogen testing.

For additional information or a list of publications contact:

Mrs. Betty Jackson
U.S. EPA
Environmental Research Laboratory
Sabine Island, Gulf Breeze, FL 32561
Telephone: (904) 932-5311

6.3.7 Narragansett Environmental Research Laboratory

Emphasis of EPA current research at this laboratory is on the effects of pollutants on marine ecosystems, the behavior of pollutants in estuaries, and the ecological effects of marine disposal of wastes. This laboratory supervises Chesapeake Bay studies also. The work at Narragansett on the bioavailability of sediment-associated pollutants to benthic and pelagic organisms and on the impacts of dredge spoil disposal and sewage discharges in marine areas should be of particular interest to Service coastal field offices.

Contact: Environmental Research Laboratory
USEPA
South Ferry Road
Narragansett, RI 02882

FTS 838-4843

6.4 FISH AND WILDLIFE SERVICE SOURCES OF INFORMATION

The technical consultative assistance available for ES field offices from within the Service is varied and among the best available anywhere. A vast array of expertise about contaminants, knowledge of biological effects of pollutants, and sampling and testing methods is to be found in the research centers, laboratories, cooperative units, and teams of the Service.

Recommended reading

Eschmeyer, P. H., and T. G. Scott. 1983. Fisheries and wildlife research 1982: activities in the divisions of research for the fiscal year 1982. U.S. Fish and Wildlife Service Editorial Office, Fort Collins, Colo. 205 pp.

Each ES field office should already have this publication. Extra copies can be obtained from the Service's Office of Information Services in Denver.

Note: A directory of the Service's Research and Development organization is available to field offices.

Contact: Rhoda L. Upshur
Division of Planning and
Information Management
FTS 653-8791

6.4.1 Sources of Information About Fish and Wildlife Service Priorities

An understanding of the priorities of the U.S. Fish and Wildlife Service is essential to the process of assigning priorities to NPDES permits. Service personnel must make choices from among the thousands of NPDES permits processed each year by EPA and the States. Some are much more important to the Service than others. Pollutant discharges that carry risks for species and areas of special concern to the Service must receive attention from ES personnel above all other proposed discharges.

The best sources of information about contemporary U.S. Fish and Wildlife Service objectives, programs, and priorities are:

(1) the Service Management Plan (issued September 1982) which contains descriptions of Important Resource Problems (IRP's)

(2) Program Management Documents (see especially those for Endangered Species and Habitat Preservation)

(3) Annual Work Plans for various Divisions

(4) Regional Resource Plans that have recently been prepared as an aid to regional planning within the Service.

Regional Resource Plans. The Service is continuously engaged in a variety of planning efforts ranging from the nationwide Service Management Plan to the field station annual work plans of individual activities.

The Regional Resource Plan (RRP) is one component and product of FWS planning, budgeting, evaluation, and coordination efforts. The RRP acts as a vehicle to link, interpret, and express national guidance and mandates in a regional context, and also provides broad guidelines for preparing more geographic-specific comprehensive land-use and species-management plans within its Region. It assists the Region in determining and justifying high-priority strategies, tasks, and funding needs and, ultimately, in preparing and justifying budgets to the President and Congress. The RRP offers a standard to evaluate the region's performance and achievements. Finally, the plan conveys the Service's philosophy for managing fish and wildlife populations and habitats. The RRP presents, for the Service's many constituencies and its own personnel, a course of action it will follow in achieving its responsiblities.

The RRP focuses on fish and wildlife species in the region that are of special concern or of special biological, legal, or

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public interest at either the national or regional level, or both.

The RRP should be used as a source of information about the Service's key planning and management issues, policies, goals, strategies, tasks, and budgets. It should neither be used as a source of detailed biological information nor as a source of geographically specific planning and management information. The plan is regionwide in geographic context and will be further geographically defined by the Refuge Comprehensive Plans, Refuge Species Management Plans, and Field Station Plans.

Note: The above was adapted from the Alaska Regional Resource Plan draft, January 1983.

Designation of species of special emphasis. A part of Regional Resource planning includes the designation of "Species of Special Emphasis." For this purpose each of the seven regions of the Fish and Wildlife Service recommended species that it considered to be of sufficient importance or concern to merit special attention. Candidate species were preliminarily identified by considering the Service's legal or administrative mandates, status of populations (particularly those threatened or endangered) security and status of habitats, ecological values, potential conflicts with human economic endeavors, and public demand or interest.

The preliminary list was further refined by considering the nature of the Service's responsiblity for individual species, i.e., was it a primary Fish and Wildlife Service responsiblity or was it dual with, or secondary to that of the State or another Federal agency? A final criterion considered the Service's ability to take effective action.

The regional lists were consolidated and considered from a national perspective and those species, subspecies, or populations that were most clearly of national interest or concern were selected and designated as "National Species of Special Emphasis" (NSSE). National objectives were then established for each NSSE to serve as a tool for coordinated planning and management within and between regions and with similar efforts of States and other Federal agencies and countries.

Note: The above was adapted from the Alaska Regional Resource Plan draft, January 1983.

See also: Federal Register, 10 Sept. 1982, 47(176).

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6.4.2 Columbia National Fisheries Research Laboratory (CNFRL)

CNFRL is the principal fish and pesticides research center of the Service.

The range of pollutants studied at the Columbia laboratory in 1981 included the following substances: organophosphate insecticides, PCB's, forest insecticides, kepone, mirex, organochlorines, phthalate esters, polychlorinated dibenzofurans, crude oil, cadmium, lead, mercury, arsenic, selenium, phosphate-ester hydraulic fluids, carbaryl, toxaphene, and pentachlorophenol.

As part of the national monitoring of trends in contaminants, CNFRL specialists are identifying locations where unusually high concentrations of contaminants occur, and have identified unknown contaminants turned up in screening samples -- toxaphene, mirex, endrin, and polyhalogenated aromatics to name a few. Their toxicological work with pesticides, PCB's, wood preservatives, aromatic hydrocarbons, trace elements, and heavy metals qualifies the Columbia staff to give expert advice on the significance of pollutants encountered in NPDES permit investigations. Their research into ecological indicators of contaminant stress is particularly pertinent.

CNFRL provides access to the Oil and Hazardous Materials Technical Assistance Data System (OHMTADS), which is a data base containing information on over 1,200 organic compounds and metals. The database includes a wide variety of physical, chemical, biological, and toxicological information such as freshwater toxicity, potential for accumulation, etc. It can be very useful as a basic overview of a substance.

Note: Microfiche copies of OHMTADS data sheets were sent to ECE Coordinators on Feb.8, 1983.

Contact: Columbia National Fisheries Research
Laboratory, U.S. Fish and Wildlife Service
Route 1, Columbia, MO. 65201
FTS 276-5399

Chemistry Program -- Dr. David Stalling
FTS 276-5399

Technical Information -- Ell-Piret Multer
FTS 276-5399

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6.4.3 Great Lakes Fishery Laboratory

This laboratory recently completed a review of bioaccumulation of toxic substances during dredging operations. A report including recommendations for conducting bioassays of sediment pollutants and 104 literature citations is available from the laboratory

Scientists at GLFL are evaluating the potential harm of 476 organic compounds identified in fish of the Great Lakes, including chlorinated PAH's (endrin, for example), PCB's, DDT, toxaphene, lindane, phthalate esters, and phenols. This suggests that GLFL is a good source of information regarding specific contaminants.

Contact: USFWS
Great Lakes Fishery Laboratory
1451 Green Road
Ann Arbor, MI 48105

Physiology and contaminant
chemistry -- Wayne A. Willford
FTS 378-1237

Contaminants and analytical
methods -- Robert J. Hesselberg
FTS 378-1267

Contaminant toxicology -- Dr. Dora M. Passino
FTS 378-1229

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6.4.4 La Crosse National Fishery Research Laboratory

This laboratory is primarily concerned with the testing of fish-control chemicals and their environmental safety. Look to the staff for assistance with questions about:

- residue studies, tissue and cellular distribution substances
- water-quality monitoring methods
- laboratory testing of the effects of chemicals on fish, particularly fish-control chemicals such as rotenone, antimycin, and chemicals used to treat disease and parasites of fish
- fishes of the Upper Mississippi River.

Contact: USFWS
National Fishery Research Laboratory - La Crosse
P.O. Box 818
La Crosse, WI 54601

FTS 364-3214

Section of Toxicology
FTS 364-3210

Office of Technical Information
FTS 364-3210

6.4.5 National Coastal Ecosystems Team (NCET)

NCET is a readily accessible source of species and habitat formation needed to help identify priority water-quality problems of the Service. Contact NCET for:

- ecological inventories -- primarily maps depicting resources that are ecologically or economically valuable and that could be vulnerable to pollutant discharges
- ecological characterizations -- descriptions of coastal ecosystems and the forces that control their internal processes (includes narratives, species, bibliographies, atlases)
- Geographic Information Systems -- digitized data of geographic features, habitat types, and man-made developments
- habitat analysis methods development -- produces the Habitat Suitability Index models
- community and estuarine profiles -- important data for understanding effects and fate of pollutants
- information about fish and wildlife values of barrier islands
- information searches -- retrospective bibliographic searches of various data bases, information syntheses.

Contact: USFWS
National Coastal Ecosystems Team
NASA/Slidell Computer Complex
1010 Gause Boulevard
Slidell, Louisiana 70458

FTS 685-6511

6.4.6 Office of Information Transfer (OIT)

The primary purpose of the Research and Development (R&D) arm of the Fish and Wildlife Service is to keep abreast of changing problems in fish and wildlife management and to meet the information needs of fish and wildlife managers. Toward this end, R&D centers, laboratories, teams, cooperative Fish and Wildlife Service research units, and extension education provide various information products. To enhance and facilitate the effective and efficient use of these products, R&D has established an Office of Information Transfer (OIT) that communicates information from Service Regions to R&D and transfers existing R&D results into operational applications.

The Fish and Wildlife Service regional and field station personnel are the primary "clients" for the OIT. State and other Federal agencies may be served as time, personnel, and funding permit. OIT staff works directly with field project leaders to determine information needs and to design and implement special information projects. The OIT should be of considerable assistance to ES field offices with technical assistance needs relating to NPDES. The following activities of OIT offer assistance now, or will in the near future:

- a personalized information broker function between R&D and the regional and field offices of the Service
- a "clearing-house" and referral function. OIT staff will serve as a point of initial contact to coordinate R&D responses to requests for technical assistance from Regional and field personnel
- a microcomputer-based directory of current R&D projects derived from Annual Work Plans and project plans
- training modules for contaminant operations needs e.g., hazard assessment.
- source-listing of computerized, biological and bibliographic databases available for Service-wide use and to develop training modules for Service personnel
- a microcomputer-based directory of R&D capabilities which encompasses: (1) profiles of unique or specialized R&D personnel skills, geographic knowledge of species and their habitats, and expertise in ecological subjects; (2) facilities available for technical assistance to Service operations.

Contact: Office of Information Transfer
Drake Creekside Two
2629 Redwing Road
Fort Collins, Colorado 80526
FTS 323-5430

Note: The above material was adapted from "Roles and Responsibilities Statement", Office of Information Transfer (August 15, 1983).

6.4.7 Patuxent Wildlife Research Center (PWRC)

Review of the continuing studies at PWRC suggests that much expertise is available there to aid ES field biologists with difficult questions about the effects of contaminants on wildlife and aquatic life. Look to this center for help with problems relating to testing and sampling for pollutants; effects of insecticides, fluorides, lead, chromium, oil, halogenated diphenyl ethers, DDT and DDE on birds; use of chemical oil dispersants; effects of contaminants on endangered species; effects of sewage sludge contaminants on wildlife.

Contact: USFWS
Patuxent Wildlife Research Center
Laurel, MD 20708

Section of Environmental
Physiology and Toxicology
FTS 937-7251

Section of Environmental Residue Chemistry
FTS 937-7245

6.4.8 Western Energy and Land Use Team (WELUT)

WELUT was formed originally to address issues such as western coal mining, oil shale and tar sands development, and western water allocation. Other studies have been added, including habitat evaluation, organization of land-use data, and analyses of decision making. WELUT provides technologies for predicting potential changes in habitat values; these are useful for comparing alternative land use scenarios. Look to WELUT for assistance with technologies concerning:

- fish behavior and stream flows
- Habitat Evaluation Procedures (HEP), and Habitat Suitability Index (HSI) models
- wetlands valuation methods; wetland trends, wetlands plant species database; Plant Information Network (PIN)
- National Fisheries Survey -- a survey of the type and quality of fisheries in selected stream reaches of U.S. (utilizes River Reach Fisheries Information System)
- modeling techniques for natural resource management decisions, e.g., Adaptive Environmental Assessment (AEA)
- stream habitat analyses using the Instream Flow Incremental Methodology (ISF)
- microcomputer systems
- software packages that include Habitat Evaluation Procedures (HEP) accounting, Habitat Suitability Index (HSI) models, Map Overlay and Statistical System (MOSS), Stream Simulation and Assessment (simulates water quality in a stream system), and the Geographic Information System (GIS).

Contact: HEP -- Mel Schamberger
AEA -- Ike Ellison
ISF -- Clair Stalnaker
Systems -- Jack Gross

Telephone: (303) 226-9398
FTS 323-5398

REFERENCES

7.1 GENERAL -- FATE AND EFFECTS OF POLLUTANTS

Banner, A., and J. A. Van Arman, 1973. Thermal effects on eggs, larvae and juveniles of bluegill sunfish. EPA-R3-73-041. U.S. Environmental Protection Agency, Office of Research and Monitoring, and Aquatic Sciences, Inc., Boca Raton, Fla.

Bioassay experiments were conducted to determine thermal tolerance of early life history stages of bluegill sunfish. Bluegill eggs hatched at temperatures from 18° to 36° C during two incubation tests. Maximal hatch occurred at 22.2° and 23.9° C. Lower TL_{50} temperature for hatch of normal fry was 21.9° C and upper TL_{50} temperature was 33.8° C.

Juvenile bluegills acclimated to 12.1° C had a lower 96-hr TL_{50} of 3.2° C and an upper 96-hr TL_{50} of 27.5° C. Juveniles acclimated to 32.9° C had a lower 96-hr TL_{50} of 15.3° C and an upper 96-hr TL_{50} of 37.3° C. TL_{50} increased with increasing temperature of acclimation. For juveniles acclimated to a given temperature, upper TL_{50} decreased with longer exposure.

A preliminary test determined ranges of thermal tolerance for sac-fry and swim-up fry. In another preliminary test, juvenile bluegills were acclimated to 12.1°, 19.0°, 26.0° or 32.9° C, and reared at a series of test temperatures for three to six weeks to define optimal temperature ranges for growth and survival.

Additional research determined conditions for the culture of *Lepomis macrochirus*, including spawning induction, hatching, and growth of larvae and juveniles.

Berkowitz, J. B., G. R. Schimke, and V. R. Valeri, 1973. Assessing the water pollution potential of manufactured products. EPA-R2-73-179. U.S. Environmental Protection Agency and A. D. Little, Inc., Cambridge, Mass.

A three-section catalog of manufactured products which may, during their normal use or disposal, result in water pollution. The products are grouped in accordance with the Standard Industrial Classification (SIC).

Section I summarizes the pollution potential of each listed product group. Section II provides data on typical chemical compositions for each product group and indicates the types of water-pollution effects associated with each chemical ingredient. Section III inverts Section II by providing an alphabetical listing of chemicals and the SIC codes in which they occur.

Along with the catalog, a simple model has been developed to estimate rates of pollutant entry into the waterways by various routes. A guide including examples is provided on how to use the catalog and associated models to assess potential water-pollution problems arising from finished products in common use.

Bower, C. E., and M. L. Rhoads, eds. 1983. EPA Index: a key to U. S. Environmental Protection Agency reports and Superintendent of Documents and NTIS numbers. Oryx Press, Phoenix, Ariz.

In this very handy index, EPA reports are arranged by report number and titles are grouped by subject. Contact the address below.

Oryx Press
2214 North Central at Encanto
Phoenix, AZ 85004

Brown, A. W. A. 1978. Ecology of pesticides. A Wiley-Interscience Publication, John Wiley & Sons, New York. 525 pp.

Cairns, J., Jr., 1980. The recovery process in damaged ecosystems. Ann Arbor Science, Ann Arbor, Mich. ISBN 0-250-40337-4. 167 pp.

Carter, V., L. M. Cowardin, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish Wildl. Serv. Biol. Serv. Program FWS/OBS-79/31. Washington, D. C. 103 pp.

Coutant, C. C., and C. P. Goodyear. 1972. Thermal effects. J. Water Pollut. Control Fed., pp. 1250-1294.

Daye, P. G. 1980. Effects of ambient pH on fish: an annotated bibliography. Can. Tech. Rep. Fish. Aquat. Sci. No. 950.

Dube, M. A. 1977. Effects of polutants on submarine plant synecology. EPA-60/3-77-020. U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, R.I. 53 pp.

Synecology of marine plant communities has been studied in areas differing in water quality. Major sources of deterioration of water quality include the Nooksack River, an oil

refinery, and an alumina reduction plant. A method of analysis involving comparisons of standing crops of species within the communities, standing crops of groups of morphologically similar species, and standing crops of entire communities is described. Stable species of the community are distinguished as well as those which appear to be indicators of environmental change. The floating bull kelp, Nereocystis leutkeana, is shown to have a depressing effect on standing crop and on the presence of other elements of the community. An increased respiration rate in kelps exposed to aluminum-plant effluent was measured. Physical factors of the environment were measured. Poorer conditions for growth of algae in the environs of the aluminum company following its expansion are indicated by the accumulation of silt, the decrease in standing crop, and loss of certain species.

Esch, G. W., and McFarlane, R. W., eds. 1976. Thermalecology II. U. S. Energy Research Development Administration Symposium Series 40 (CONF-750425). National Technical Information Service, Springfield, Va.

Fritz, Eugene S. 1980. Potential impacts of low pH on fish and fish populations. U.S. Fish Wildl. Serv. Biol. Serv. Program, FWS/OBS-80/40.2. 14 pp.

Gloyna, E. F., et al. 1976. Waste management for the coastal zone: concepts for the assessment of ocean outfalls. Assembly of Engineering Marine Board, National Research Council, Washington, D.C. 24 pp.

Haines, T. 1981. Acidic precipitation and its consequences for aquatic ecosystems: a review. Trans. Am. Fish. Soc. 110(6):-669-707.

Note: This paper is "must" reading regarding effects of low pH on fish and ecosystems. It contains a useful table on species of fish and apparent pH at which species disappeared, and an extensive bibliography including material on organochlorines vs. chlorinated hydrocarbons DDT, PCB.

Harris, T. L. and T. M. Lawrence, 1978. Environmental requirements and pollution tolerance of trichoptera. EPA-600/4-78-063. U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio. 316 pp.

Data on the environmental requirements for 245 taxa of North American Trichoptera are compiled from 294 references. This compilation is prepared to assist biologists in evaluating data from macroinvertebrate samples collected for the assessment of water quality. The parameters considered are life stage, general habitat, specific habitat, retreat, diet, turbidity, current, temperature, pH, D.O., alkalinity (phenolphthalein and total), nitrates, nitrites, ammonia, phosphorus (ortho and total), seasonal distribution, and geographic distribution. Where possible ranges for the parameters mentioned are given. Additional parameters such as toxic compounds, heavy metals, and pesticides are included when available.

Haynes, R. J. 1980. Future lignite mining in the south and impacts on fish and wildlife under SMCRA. Proc. Annu. Conf. Southeast Assoc. Fish Wildl. Agencies 33:753.

Hubbard, M. D., and W. L. Peters, 1978. Environmental requirements and pollution tolerance of ephemeroptera. EPA-600/4-78-061. U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio. 467 pp.

Data on the environmental requirements and pollution tolerance of 400 species of mayflies (Insecta: Ephemeroptera) from the United States and Canada were compiled from 200 sources. The following ecological parameters were considered: pH, nutrients, organic pollution, oxygen concentration, temperature, turbidity, current, general and specific habitats, season of emergence, feeding behavior, and geographical distribution. It is suggested that this compilation be used as a guide to assist in evaluating data on macroinvertebrates collected in ambient water monitoring and studies of the effects of pollution on aquatic life.

Interstate Commission on the Potomac River Basin. 1976. The Potomac estuary: biological resources, trends and options. Rockville, Md.

Interstate Commission on the Potomac River Basin. 1978. The freshwater Potomac: aquatic communities and environmental stresses. Proceedings of a symposium in January 1977 in College Park, Maryland. Rockville, Md.

Johnson, W. W., and M. T. Finley. 1980. Handbook of acute toxicity of chemicals to fish and aquatic invertebrates. U.S. Fish Wildl. Serv. Res. Pub. 137. 98 pp.

A recent summary of results of toxicity tests at Columbia Lab.; a good source of chemical and common names and toxicity data for herbicides, pesticides, molluscicides, fungicides, and industrial chemicals. Includes notes on variation of effects on aquatic organisms. Available from Supt. Doc., U.S. Govt. Printing Office, Washington, D.C. 20402. STOCK NO. 024-010-00586-9.

Kaumeyer, K.R., and E.M. Setzler-Hamilton. 1982. Effects of pollutants and water quality on selected estuarine fish and invertebrates: a review of the literature. Univ. of Md., Center for Environmental and Estuarine Studies, Ches. Biol. Lab., Ref. No. UMCEES 82-130 CBL.

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Leach, J. M., and L. T. K. Chung. 1980. Development of a chemical toxicity assay for pulp mill effluents. PB81-126369, U. S. Dep. Commerce, NTIS, Springfield, Va.

Lee, G. F., and Plumb, R.H. 1974. Literature review on research study for the development of dredged material disposal criteria. Office of Dredged Material Research, U.S. Army Eng. Waterways Exp. Station, Vicksburg, Miss. 146 pp.

Matthews, W.J., and J.T. Styron. 1981. Tolerance of headwater vs. mainstream fishes for abrupt physiochemical changes. Am. Midl. Nat. 105:149.

McCormick, H. 1976. Temperature effects on young yellow perch, *Perca flavescens* (Mitchill). EPA-600/3-76-057. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 25 pp.

The effect of temperature on growth of young-of-the-year yellow perch was determined over an 8-week period at constant temperatures from 8^{0} to 34^{0} C. Absolute growth rates peaked at 28^{0} C, but were not significantly less ($P>0.05$) over the range from 26^{0} to 30^{0} C. Deformities occurred at 32^{0} C but at no lower temperatures, and all fish died within 7 days at 34^{0} C. A suggested seasonal temperature cycle for yellow perch habitats is presented, based on the data from this experiment for the summer period of rapid growth and on data from previous studies for other life stages.

McNulty, J. K., W. N. Lindall, Jr., and J. E. Sykes. 1972. Cooperative Gulf of Mexico Estuarine Inventory and Study, Florida: Phase 1, Area description. U. S. Dep. Commer. Natl. Oceanic Atmos. Admin. NOAA Tech. Rep. MNFS CIRC-368.

Newly developed tables and maps depict the dimensions, submerged vegetation, tidal marshes, mangrove swamps, commercial oyster beds, leased oyster-rearing areas, sources of pollution, drained tidal marshes, and filled areas of Florida's west coast estuaries. Published and unpublished information on temperature, salinity, geology, artificial fishing reefs, stream discharge, human population, commercial fishing, and economic development is presented in new form.

Muncy, Robert J., G. J. Atchison, R. V. Buckley, B. W. Menzel, L. G. Perry, and R. C. Summerfelt. 1979. Effects of suspended solids and sediment on reproduction and early life of warmwater fishes: a review. EPA-600/3-79-042. U.S. Environmental Protection Agency, ORD, Corvallis, Oregon. 110 pp.

Review of published literature and research reports revealed limited data for a few warmwater fish species concerning the impacts of suspended solids and sediments on reproductive success. Species and stages of warmwater fishes are not equally susceptible to suspended solids. Only limited circumstantial evidence was found on the effects on gonad development in fish. There was substantial evidence that reproductive behavior was variously affected by suspended solids and sediment relative to spawning time, place of spawning, and spawning behavior. The reproductive activities of more adaptively successful species were not carried on at times of highest turbidity. Fishes with complex patterns of reproductive behavior are more vulnerable to interference by suspended solids at a number of critical phases during the spawning process. The incubation stage is particularly susceptible to adverse effects from sediment.

Olinger, L. W., et al. 1975. Environmental and recovery studies of Escambia Bay and the Pensacola Bay System Florida. U.S. Environmental Protection Agency Publ. EPA-904/9-76-016.

Pollution discharges into Escambia Bay and Pensacola Bay are classified as point and nonpoint sources. This report documents conditions in the system under various environmental situations and discusses causes of degradation of the ecosystem. The feasibility of various restoration schemes, i.e., water diversion, sediment removal, and revegetation, is explored. The recommendations for enhancing water quality and the extensive literature cited should be applicable to many Florida Bays.

Radding, S. B., J. L. Jones, W. R. Mabey, D. H. Liu, and N. Bohonos. 1978. Assessment of potential toxic releases from leather industry dyeing operations. EPA-600/2-78-215. U.S. Environmental Protection Agency, Cincinnati, Ohio. 73 pp.

This study focuses on the organic dyes released to the environment in the wastewaters from leather dyeing operations. Basically, three types of dyes -- acid, basic, and direct -- are used, although the number of different dyes are well over 50, and the number of formulations used at a single tannery over a period of several years can be greater than 100. Tannery wastewaters are complex mixtures which for the most part are discharged directly into municipal sewers. The character of this discharge will differ hourly depending on the operation performed since tanning operations are batch mode. Estimates based on information from suppliers and tanners were made of the probable discharge of dyes in wastewater. The literature search revealed little or no data on the fate of these dyes in the environment. From consideration of the physical and chemical properties of the dyes, biosorption (complexing with proteinaceous material) appears to be the most likely mechanism for removal of dyes in biological wastewater treatment systems.

Regan, D. M., T. L. Wellborn, Jr., and R. G. Bowker. 1968. Striped bass *Roccus saxatilis* (Walbaum) development of essential requirements for production. Report, U. S. Fish

Wildl. Serv., Division of Fish Hatcheries. Washington, D.C. 133 pp.

Schaumburg, F. D. 1973. The influence of log handling on water quality. EPA-R2-73-085. U.S. Environmental Protection Agency, Office of Research and Monitoring, and Oregon State University. Corvallis, Oreg.

The water storage of logs is widely practiced in the Pacific Northwest. This investigation was made to determine the effect of this practice on water quality. Soluble organic matter and some inorganics leach from logs floating in water and from logs held in sprinkled land decks. The character and quantity of leachate from Douglas fir, ponderosa pine, and hemlock logs have been examined. Measurements including BOD, COD (1.0-4.2gm/ft^2 per week), solids and toxicity (no kill to 20% TLM 96) have shown that in most situations the contribution of soluble leachates to holding water is not a significant water pollution problem.

The most significant problem associated with water storage appears to be the loss of bark from logs during dumping, raft transport, and raft storage. Bark losses from 6.2% to 21.7% were measured during logging and raft transport. Dislodged bark can float until it becomes waterlogged and sinks, forming benthic deposits. Floating bark is aesthetically displeasing and could interfere with other beneficial uses of a lake, stream, or estuary. Benthic deposits exert a small but measurable oxygen demand and may influence the biology of the benthic zone. Implementation of corrective measures by the timber industry to reduce bark losses could make the water storage of logs a practice which is compatible with a high-quality environment.

Shirazi, M. A., and W. K. Seim, 1979. A stream systems evaluation -- an emphasis on spawning habitat for salmonids. EPA-600/3-79-109. U.S. Environmental Protection Agency, Office of Research and Development, Corvallis, Oreg. 44 pp.

As a result of silvicultural activities in the Pacific Northwest, various levels of sediments and debris enter the streams, often degrading spawning substrate of salmonid fishes. Simple but reliable procedures are needed to monitor spawning gravels to assess the level of these impacts. This paper presents a preliminary rationale for conducting a monitoring program with the objective of assessing the level of sedimentation impact both locally in a given stream spawning site as well as more generally for the entire stream that might be impacted by watershed management activities.

Snedaker, S. C., and M. S. Brown. 1981. Water quality and mangrove ecosystem dynamics. EPA-600/S4-81-022. U.S. Environmental Protection Agency, Office of Research and Development, Gulf Breeze, Fla. 4 pp.

Spehar, R. L., A. E. Lemke, D. H. Pickering, T. H. Roush, R. C. Russo, and J. D. Yount. 1981. Effects of pollution in freshwater fish. J. Water Pollut. Control Fed. 53:107 . EPA-600/J-81-094.

Stickel, W. H., 1975. Some effects of pollutants in terrestrial ecosystems. Pages 25-74 in A.D. McIntyre and F. Mills, eds. Ecological toxicology research on the effects of heavy metals and organohaline compounds. Plenum Press, NY.

Striped bass--see Trans. Am. Fish Soc. 110:93-197 special section

Surdick, R. F., and A. R. Gaufin. 1978. Environmental requirements and pollution tolerance of Plecoptera. EPA-600/4-78-062. U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio. 473 pp.

Environmental requirements associated with 363 North American species of the freshwater insects of the order Plecoptera (stoneflies) were investigated. Profile forms on each species, representing a compilation of information surveyed from selected published sources, indicate the ranges of environmental conditions under which the species has been found. Ecological parameters considered include pH, nutrients, organic pollution, dissolved oxygen concentration, temperature, turbidity, current, general and specific habitats, seasonal emergence of adults, feeding behavior, and geographical distribution.

The report is designed to be applicable to water quality investigations and to provide a baseline from which further ecological and systematic research is encouraged.

Tubb, R.A., ed. 1977. Recent advances in fish toxicology: a symposium. EPA-600/3-77-085. U.S. Environmental Protection Agency, Office of Research and Development, Corvallis, Oreg.

Tucker, J. H., P. M. Cook, and G. L. Phipps. 1978. Asbestos: a bibliography. EPA-600/3-78-066. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 98 pp.

This bibliography contains 1,425 references pertaining to the chemical, physical, biological, and medical properties and effects of asbestos in our environment. The bibliography was compiled by the asbestos research group at the Environmental Research Laboratory-Duluth, Minnesota.

U. S. Department of Commerce. 1974. Bibliography of the New York Bight. Part I - List of citations. (2-part set.) U. S. Govt. Printing Office. (Stock Number 3317-00273) Note: Includes titles on water pollution, thermal pollution,

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fisheries, estuaries, tidal mixing, and ecological effects of municipal wastes.

U.S. Environmental Protection Agency, Environmental Research Laboratory-Duluth. 1978. Proceedings of the 1st USA-USSR Symposia on the effects of pollutants upon aquatic ecosystems, Duluth, Minn., October 21-23, 1975, vol. I. Specl. publ. EPA-600/3-78-076. U.S. Environmental Protection Agency, Environmental Research Laboratory-Duluth, Minn. 226 pp.

7.2 HEAVY METALS

Anderson, P., and L. Weber. 1975. The toxicity to aquatic populations of mixtures containing certain heavy metals. Pages 933-953 in International Proceedings of the Conference on Heavy Metals in the Environment. Toronto, October 27-31.

Andros, J., and R. Garton. 1980. Acute lethality of copper, cadmium, and zinc to Northern Squawfish. Trans. Am. Fish. Soc. 10:235-238. "The 96-hr median lethal concentrations were 18 micrograms/liter for copper, 1,104 micrograms/liter for cadmium, and 3,693 micrograms/liter for zinc in 12° C water." (Flow-through acute toxicity test on juveniles.)

Doudoroff, P. 1976. Toxicity to fish of cyanides and related compounds -- a review. EPA-600/3-76-038. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 161 pp.

The world literature on the toxicity to fish of simple and complex cyanides, nitriles, cyanogen chloride, thiocyanates, and cyanates is reviewed critically and interpretively. Differently determined limits of toxicant concentrations tolerated by various fishes are compared, and their variation with exposure time, pH, temperature, and dissolved oxygen and mineral content of the water, body size, age, acclimation, etc., is examined. Interactions of free cyanide with other toxic water pollutants also are considered. Available data on effects of sublethal levels of free cyanide on growth, food consumption and utilization, swimming ability, behavior, etc., and observations on avoidance reactions of fish to the toxicant are summarized and their ecological significance is discussed. After a brief introduction to the chemistry of complex metallocyanides and their behavior in dilute solutions, the acute toxicity of the solutions is thoroughly considered and related to concentrations of their identifiable components.

Eisler, R., R. Rossoll and G. Gaboury. 1979. Fourth annotated bibliography on biological effects of metals in aquatic environments. EPA-600/3-79-084. U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, R.I. 592 pp.

Titles of 886 technical articles are listed on the subject of toxicological, physiological, and metabolic effects of stable and radio-labeled metal cations on marine, estuarine, and freshwater flora and fauna. Almost all of these articles were published in the 2-year period 1977-1978. Each reference was annotated at length and subsequently indexed by metal, taxon, and author. The first three volumes in this series, published as U.S. Environmental Protection Agency Reports R3-73-007, 600/3-75-008, and 600/3-78-005, respectively, are also available from NTIS.

Note: The third annoted volume lists 954 technical articles and includes material from volumes 1 and 2. These publications contain much information about the sensitivity and tolerance of aquatic organisms to various metals. Use the abstracts accompanying each entry to find specific toxicity values.

Holcombe, G. W., and R. W. Andrew. 1978. The acute toxicity of zinc to rainbow and brook trout: comparisons in hard and soft water. EPA-600/3-78-094. U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio. 25 pp.

The means and ranges of the 96-hr LC_{50}'s derived from three tests were 0.55 (0.37 to 0.76) and 2.5 (1.9 to 3.0) mg Zn/l for rainbow and 2.0 (1.6 to 2.4) and 6.0 (5.0 to 7.0) mg Zn/l for brook trout in soft and hard water, respectively. Based on overall means, brook trout were approximately 2.7 times more resistant than rainbow trout. Zinc toxicity to both species increased with increasing pH, and decreased with increasing hardness and alkalinity.

Kleerekoper, H. 1973. Effects of copper on the locomotor orientation of fish. EPA-R3-73-045. U.S. Environmental Protection Agency, and Dep. of Biology, Texas A&M University, College Station.

The effects of copper ions at subacute concentrations on the locomotor orientation of goldfish (*Carassius auratus*), channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), white sucker (*Catostomus commersoni*) and green sunfish (*Lepomis cyannelus*) were investigated in detail. In regions of water containing 11-17 microgram/liter Cu^{++} (as $CuCl_2$) in a shallow gradient, goldfish oriented toward the copper source ("attraction"). This response is reduced in a somewhat steeper gradient. In steep gradients significant but no absolute avoidance behavior occurred. Whether the response will be "avoidance" or "attraction" seems to depend on the slope of the gradient to which the fish is exposed. Even in steep gradients, the "avoidance" behavior is reversed to "attraction" when the copper ions interact with a temperature slightly higher (0.4° C) than that of the surrounding copper-free water. The interaction creates a new stimulus configuration which is different from those formed by the two variables separately. The orientation of the largemouth bass is not affected by copper ions at the concentrations tested. Channel catfish are weakly attracted by the copper-containing water while green sunfish significantly increase time spent there. Suckers significantly but not absolutely "avoid" such water through changes in turning behavior.

Menzie, Calvin M. 1980. Effects of ash and scrubber sludge disposal on fish and wildlife (an annotated bibliography). U.S. Fish and Wildlife Service, Division of Ecological Services. Unpubl. rep.

Note: This report was distributed to ES field supervisors in January 1981. It includes discussions of the effects of heavy metals on aquatic organisms and a bibliography relating to effluents from coal-fired power plants.

Merlini, M., and G. Pozzi. 1977. Lead and freshwater fishes: Part 1 -- lead assimilation and water pH. Environ. Pollut. 12:107-172.

Montgomery, J. R., M. Price, J. Thurston, G. Laite de Castro, L. Leida Cruz, and D. Zimmerman. 1978. Biological availability of pollutants to marine organisms. EPA-600/3-78-035. U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, R.I. 145 pp.

This research was initiated to determine the rates of uptake by a Thalassia testudinum ecosystem of Cd, Cr, Cu, Ni, Pb, and Zn leached from sewage sludge by seawater.

Phillips, Glenn, R., and R. C. Russo. 1978. Metal bioaccumulation in fishes and aquatic invertebrates: a literature review. EPA-600/3-78-103. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 121 pp.

Literature concerning the bioaccumulation of metals by freshwater and marine fishes and invertebrates has been reviewed; metal residue levels are also reported for a few mammals and plants. Twenty-one metals are considered in individual sections of the review and a bibliography of over 300 literature citations is included.

The major sources of each metal to the environment are listed, as are the causes and symptoms of metal toxicity in humans. Some discussion is included on the health implications of human consumption of metal-contaminated aquatic organisms. Available information is presented on routes of accumulation, kinetics of accumulation and excretion, distribution within organisms, physiological responses of organisms, residue toxicity thresholds, chemical speciation relative to biological availability, and microbial and chemical interconversions in aqueous systems. Major areas of insufficient knowledge are identified.

Few metals accumulate in the edible portions of aquatic organisms; moreover, most metals when ingested orally have a relatively low toxicity to humans. However, mercury, arsenic, and radioactive cesium may reach hazardous concentrations in edible tissues of fishes and shellfishes; additionally, in shellfishes, cadmium, lead, and other metal isotopes may exceed levels safe for human consumption.

Reish, D. J., 1980. The effect of different pollutants on ecologically important polychaete worms. EPA-600/3-80-053. U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, R.I. 148 pp.

The procedures for culturing marine polychaetous annelids from egg to egg under laboratory conditions were described. A manual was prepared detailing the procedures used in culturing 12 species of polychaetes.

The effects of heavy metals and the water soluble fractions of petroleum hydrocarbons were measured over 96 hr and 28 days, and with some of the toxicants, over a complete reproductive cycle for some of these species of polychaetes. Mercury and copper were the most toxic of the six metals tested and cadmium was the least toxic. The 28-day LC_{50} was less than the 96-hr value in most experiments. Larval stages were more sensitive than the adults to heavy metals. *Dexiospira* was the most sensitive species and *Cirriformia luxuriosa* was the most tolerant. Suppression of reproduction occurred with each species studied when exposed to heavy metals; the concentrations at which this occurred was less than the 28-day LC_{50}.

Sauter, S., K. Buxton, K. J. Macek, and S. R. Petrocelli. 1976. Effects of exposure to heavy metals on selected freshwater fish. EPA-600/3-76-105. U.S. Environmental Protection Agency, Duluth, Minn. 85 pp.

Embryo and larvae of rainbow trout, lake trout, channel catfish, bluegill, white sucker, northern pike, and walleye were exposed for 60 days after hatch to lead and chromium in soft water. Brook trout, channel catfish, and walleyes were also exposed for 60 days after hatch to copper and cadmium in soft and hard water. The effects on survival and growth indicated that copper and cadmium were toxic at much lower concentrations than lead and chromium. Water hardness did not appear to have a significant effect on the observed toxicity in most cases.

U. S. Department of the Interior, Office of Water Research and Technology, Water Resources Scientific Information Center. 1978. PCB in water: a bibliography. OWRT/WRSIC 78-203. Washington, D.C. NTIS PB-206534.

Other Bibliographies published by WRSIC and obtainable from NTIS are:

PB 201258	Strontium in water
PB 201266	Trace elements in water
PB 201269	Copper in water

PB 201270	Manganese in water
PB 201271	Magnesium in water
PB 201272	Zinc in water
PB 202578	Arsenic and Lead in water
PB WRSIC	71-211 DDT in water
PB 206527	Detergents in water
PB 207339	Dieldrin in water
PB 206535	Mercury in water
OWRT/WRSIC	77-208 Heavy metals in water (excluding mercury)

Walden, C. C., and T. E. Howard. 1981. Toxicity of pulp and paper mill effluents: a review. Pulp. Pap. Can. 82:115.

Windom, H. L. 1976. Geochemical interactions of heavy metals in southeastern salt marsh environments. EPA-600/3-76-023. U.S. EPA, Office of Research and Development, Corvallis Environmental Research Lab, Corvallis, Oreg. 36 pp.

The movement, geochemical interactions, and fate of mercury, cadmium, and other heavy metals in southeastern salt marsh environments have been summarized in this report from EPA. The report presents the findings of a 3-year study conducted by the Skidaway Institute of Oceanography.

Among major conclusions of the study are the following:

1. Southeastern rivers are similar in their concentrations of dissolved mercury and cadmium. Heavily industrialized rivers do not differ from those that are undeveloped, suggesting that metal inputs are not reflected in the water column, but are probably evident in sediments.

2. High levels of dissolved and particulate organic matter in rivers can influence the fate of metal pollutants.

3. Industrialized estuaries differ from undeveloped estuaries only in the concentration of heavy metals in bottom sediments.

4. Estuaries act as sinks for iron and manganese. This is probably true for other transition metals as well.

5. The accumulation of mercury in salt marsh sediments may be due to methylation. This results in long-term localized environmental problems related to accumulation in organisms.

6. Mercury levels in coastal waters vary seasonally due to seasonal atmospheric inputs.

7. The residence time of mercury and cadmium in coastal waters is estimated to be 17 and 3 weeks, respectively.

7.3 ORGANIC COMPOUNDS

Abel, P., 1974. Toxicity of synthetic detergents to fish and aquatic invertebrates. J. Fish Biol. 6:279-298.

Califano, R. J., J. M. O'Connor, and L. S. Peters. 1980. Uptake, retention and elimination of PCB (Aroclor 1254) by larval striped bass (Morone saxatilis). Bull. Environ. Contam. Toxicol. 24:467.

Dalela, R. C., et al. 1980. Physiological stress induced by sublethal concentration of phenol and pentachlorophenol in Notopterus notopterus: Hepatic acid and alkaline phosphatases and succinic dehydrogenase. Environ. Pollut. (G.B.), 21A: 3.

Dill, E. C., W. M. McCarty, H. C. Alexander, and E. A. Bartlett. 1980. Toxicity of 1,1-dichloroethylene (vinylidene chloride) to aquatic organisms. EPA-600/3-80-057 and Dow Chemical Co. Publication No. B-600-147-80. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 26 pp.

Studies were conducted to determine the acute toxicity of 1,1-dichloroethylene ((vinylidene chloride) VDC) to fish and macroinvertebrates. The methods included a 96-hr static toxicity test using fathead minnows, Pimephales promelas Rafinesque; a 48-hr static toxicity test using water fleas, Daphnia magna Straus; and a 13-day flow-through toxicity test using the fathead minnow. The 96-hr static LC_{50} value for fathead minnows was 169 (161 to 179) mg/l. The 48-hr static LC_{50} for daphnids was 11.6 (9.0 to 14.0) mg/l. The 96-hr flow-through LC_{50} value for fathead minnows was 108 (85 to 117) mg/l.

The threshold LC_{50} value in flowing water was demonstrated after 7 days to be 29 (23 to 34) mg/l. Loss of body equilibrium (swimming disorientation) was the major sublethal toxic effect noted in the static and flow-through fish tests. Many fish affected in the static test recovered in 48 hr, perhaps because of volatilization of the toxicant. However, all affected fish in the flow-through test died by day 7. In the water flea test 24- and 48-hr LC_{50} values were identical, probably because of volatilization of the test material during the first 24 hr. The difference in the static and flow-through fish toxicity values stresses the importance of conducting a flow-through test with volatile chemicals to adequately determine acute and longer term exposure effects (>96 hrs).

Note: The LC_{50} value is the calculated concentration of toxicant which would kill 50 percent of the test organisms within a specified time period, e.g., 96 hr. The threshold

LC_{50} value is achieved when there is no further decline in the LC_{50} value over a period of 3 to 4 days or more.

Heitmuller, P., T. Hollister, and P. Parrish. 1981. Acute toxicity of 54 industrial chemicals to Sheepshead Minnows (Cyprinodon variegatus). Bull. Environ. Contam. Toxicol. 27:596-604.

Lincer, J. L., M. E. Haynes, and M. L. Klein. 1976. The ecological impact of synthetic organic compounds on estuarine ecosystems. EPA-600/3-76-075. U.S. Environmental Protection Agency, Office of Research and Development, Gulf Breeze, FL. 364 pp.

This review and indexed bibliography concerns the presence and effects of pesticides (i.e., insecticides, herbicides, fungicides, etc.) and industrial toxicants in the estuarine ecosystem. The industrial toxicants consist primarily of polychlorinated biphenyls, but phthalate esters, polychlorinated terphenyls, chlorinated dibenzodioxins and dibenzofurans are also discussed. The review covers literature of the last decade, with emphasis on the most recent 5 years. However, the 700-plus references in the bibliography span a much wider range. A permuted keyword retrieval system (SPINDEX) is provided to allow practical use of the bibliography by scientists, academicians, and societal decision makers.

Marcus, M. D., H. L. Bergman, D. A. Stoller, S. K. Brown, and P. A. Molhot. 1980. Bibliography of aquatic ecosystem effects, analytical methods and treatment technologies for organic compounds in advanced fossil-fuel processing effluents. EPA-600/3-80-026. U.S. Environmental Protection Agency Publ. 362 pp.

Advanced fossil-fuel processing operations, including oil-shale retorting, coal gasification, coal liquifaction and tar-sand recovery, can result in chemically complex aqueous waste effluents. This bibliography compiles much of the recent literature (ca. 1970-1977) concerning effects of organic compounds in advanced fossil-fuel processing effluents discharged into aquatic ecosystems, plus information available on analytical methods and treatment technologies for these organics.

To compile the bibliography, nearly 500 organic compounds known to be constituents of fossil fuels and fossil-fuel processing effluents were crossed with a list of key words in a computerized search of six bibliographic data bases. The bibliography contains 1,314 citations indexed by chemicals, key words, taxonomic categories, and authors. This bibliography is intended especially for researchers working with advanced fossil-fuel processing effluents in aquatic environments, but may also be useful to those concerned with fossil-fuel processing effluents in terrestrial environments and to those working in pulp-mill and pesticide research.

Markle, R. A., A. F. Fentiman, T. R. Steadman, and R. A. Mayer. 1980. Potentially toxic and hazardous substances in the industrial organic chemicals and organic dyes and pigments industries. EPA-600/2-80-056. U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio. 715 pp.

The objectives of this program were identification of the potential hazards associated with the production and use of industrial organic chemicals (IOC) and organic dyes and pigments (ODP) and determination of the state of the art of the control and treatment of potentially hazardous waste generated during manufacture and use of these materials. The major study outputs are comprehensive master tables of 510 IOC, 142 ODP raw materials, 722 ODP intermediates and 1458 dyes and pigments containing correlated compounds, identification, toxicity data, and chemical production process information.

Eight "priority rating" lists containing chemicals ranked in order of quantitative toxicity or production data, and twelve "priority" lists with chemicals presented alphabetically were extracted from the master tables. Although about 150 compounds are thus shown to pose potential toxic hazards, the toxicity data were found to vary widely in both availability, and in precision where available in replicate. Consequently, these simplistically prepared lists must be used with caution. Pollution control and waste-treatment technologies applicable to these industries are discussed and summarized, but "best" technologies for specific compounds/processes are not specified.

Mattson, V. R., J. W. Arthur, and C. T. Walbridge. 1976. Acute toxicity of selected organic compounds to fathead minnows. EPA-600/3-76-097. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 19 pp.

Static nonrenewal laboratory bioassays were conducted with 26 organic compounds commonly used by industry. The selected compounds represented the five following chemical classes: acids, alcohols, hydrocarbons, ketones and aldehydes, and phenols. Juvenile fathead minnows (*Pimephales promelas*) were the test animals, and test duration was limited to 96-hr. Lake Superior water served as the diluent source for all test compounds. Additional tests were conducted with a reconstituted diluent water for five compounds.

The alcohol compounds were generally 10 to 100 times less toxic than chemicals tested in the other four chemical classes. Compounds in the other four classes had a similar toxicity range. The most lethal chemical tested was pentachlorophenol (96-hr LC_{50} of 0.6 mg/l) and the least lethal was ethanol (96-hr LC_{50} of 13,480 mg/l). Most of the minnow deaths occurred during the first 24 hrs. Comparative chemical tests in the two diluent waters gave similar lethal responses.

Owen, J. W., and S. W. Rosso. 1981. Effects of sublethal concentrations of pentachlorophenol on the liver of bluegill sunfish (*Lepomis macrochirus*). Bull. Environ. Contam. Toxicol, *26*:594.

Pierce, R. H. Jr., 1978. Fate and impact of pentachlorophenol in a freshwater ecosystem. U.S. Environmental Protection Agency, Office of Research and Development, Athens, Ga. EPA-600/3-78-063. 74 pp.

This investigation was undertaken to determine the fate of pentachlorophenol (PCP) that caused extensive fish kills in a freshwater lake in December 1974 and again in December 1976. The kills resulted from accidental release of wood-treating wastes containing PCP in fuel oil. Food chain relationships were investigated in the lake and the accumulation and elimination of sublethal concentrations of dissolved PCP was studied under laboratory conditions for the bluegill (*Lepomis macrochirus*). The highest concentrations of PCP in fish were observed in the bile followed by liver, gills, and muscle.

Lake sediment and leaf litter contained high concentrations of PCP throughout the two-year study. Studies of leaf litter from the contaminated water shed area showed it to be a source for chronic pollution of the aquatic ecosystem. The major degradation products observed were pentachloroanisole ($PCP-OCH_3$), and the 2,3,5,6- and 2,3,4,5-tetrachlorophenol (TCP) isomers. These products were found to persist in sediment and fish along with PCP. The methyl ethers (anisoles) of both TCP isomers and the 2,3,4,6-TCP isomer were observed in some samples but the small amounts were difficult to quantify.

Schneider, M. J., et al. 1980. Effects of phenol on predation of juvenile rainbow trout *Salmo gairdneri*. Environ. Pollut. (G.B.) 23A: 121.

Shumway, D. L., and J. R. Palensky. 1973. Impairment of the flavor of fish by water pollutants. U.S. Environmental Protection Agency and Oregon State University, Corvallis, Oregon, Dep. Fisheries and Wildlife. EPA-R3-73-010. *Note*: Supt. of Docs no. I 49.68:105.

Laboratory studies were conducted with fish to determine an appropriate bioassay procedure for the examination of the flavor-imparting capacity of wastes and waste components (organic compounds). In addition, the flavor-imparting capacity and estimated threshold concentrations were determined for a number of organic compounds and effluents. Flavor evaluations were obtained through the use of taste panels.

Estimated threshold concentrations were determined for twenty-two organic compounds. The values ranged from 0.4 ppb (2,4-dichlorophenol) to 0.95 ppm (formaldehyde). An additional 12 compounds were tested, seven of which were not found to impair flavor at or near lethal levels.

Estimated threshold concentrations were determined for effluents from the Corvallis Sewage Treatment Plant, kraft paper mills, and a sulfite-base paper mill. The estimated threshold concentrations for primary, secondary, and secondary chlorinated effluents from the Corvallis plant were determined to be 11%-13%, 21%-23%, and 20%-26% by volume, respectively. The estimated threshold concentrations for the effluents from the kraft and sulfite base paper mills were about 6% and 36% by volume, respectively (Shumway-OSU).

U.S. Fish and Wildlife Service, Great Lakes Fishery Laboratory. 1981. Chlorinated hydrocarbons as a factor in the reproduction and survival of lake trout (*Salvelinus namaycush*) in Lake Michigan. U.S. Fish Wildl. Serv. Tech. Pap. 105. 42 pp.

7.4 PESTICIDES AND HERBICIDES

Allison, D. T., and R. O. Hermanutz. 1977. Toxicity of diazinon to brook trout and fathead minnows. EPA-600/3-77-060. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 77 pp.

Fathead minnows exposed to diazinon from 5 days through 24 wk post hatch developed severe scoliosis. The incidence and degree of spinal deformity correlated to exposure level. Fish in 3.2 micrograms/liter (the lowest concentration tested) had 60% more deformities than controls (p=0.05). The hatch of eggs from fathead minnows exposed to 3.2 micrograms/liter was 30% lower than the controls.

Yearling brook trout exposed to 4.8 micrograms/liter and above developed scoliosis and lordosis within a few weeks. Growth was substantially inhibited (p=0.05) during the first 3 mo of exposure at 4.8 micrograms/liter and above. Exposure to 2.4 micrograms/liter and above caused frequently observed neurological symptoms for the first 4 to 5 mo. Progeny of parents exposed 6 to 8 mo to all levels tested (0.55 to 9.6 micrograms/liter) were smaller than controls at 122 days post hatch (p=0.05).

Cardwell, R. D., D. G. Foreman, T. R. Payne, and D. J. Wilbur. 1977. Acute and chronic toxicity of chlordane to fish and invertebrates. EPA-600/3-77-019. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 136 pp.

The acute and chronic toxicity of technical chlordane to bluegill (Lepomis macrochirus), fathead minnow (Pimephales promelas), brook trout (Salvelinus fontinalis), Daphnia magna, Hyallela azteca, and Chironomus were determined with flow-through conditions. The purpose was to estimate concentrations producing acute mortality and those having no effect on the long-term survival, growth, and reproduction of the various species. Whole body residues of technical chlordane components were measured in the three invertebrate species at the end of the chronic exposure tests.

Concentrations of technical chlordane causing 50% mortality in 96 hr were 36.9 micrograms/liter for fathead minnow, 47 micrograms/liter for brook trout, and 59 micrograms/liter for bluegill, while that causing 50% immobilization in the cladoceran D. magna was 28.4 micrograms/liter. The amphipod H. azteca was only slightly affected at 96-hr by the chlordane concentrations tested, and the 168-hr LC$_{50}$ was 97.1 micrograms/liter. Acute mortality of midges was not successfully evaluated.

With respect to the test conditions employed and life cycle stages evaluated, the lowest conditions of technical chlordane found to cause major chronic effects were 0.32 micrograms/liter for brook trout, 1.22 micrograms/liter for bluegill, 1.7 micrograms/liter for midges, 11.5 micrograms/liter for amphipods, and 21.6 micrograms/liter for cladocerans.

Eisler, R. 1970. Acute toxicities of organochlorine and organophosphorus insecticides to estuarine fishes. U.S. Fish Wildl. Serv. Tech. Paper 46. 12 pp.

Eisler, R. 1970. Factors affecting pesticide-induced toxicity in an estuarine fish. U.S. Fish Wildl. Serv. Tech. Paper 45. 20 pp.

Henderson, V., J. W. Fisher, and R. D'Allessandris. 1981. Toxic and teratogenic effects of hydrazine on fathead minnow (*Pimephales promelas*) embryos. Bull. Environ. Contam. Toxicol. 26:807.

Hesselberg, R. J., and L. W. Nicholson. Influence of PCB's in water on uptake and elimination of DDT and DDE by lake trout. J. Environ. Qual. 10:315.

Note: Publication of two reports from Patuxent Wildlife Research Center is anticipated: (1) Organochlorine pesticides and PCB's: A continuing problem for the 1980's by Fleming, Clark, and Henry, and (2) Assessing the hazards of organophosphate pesticides to wildlife by Grue, Fleming, Busky, and Hill.

Johnson, W. W., and A. M. Julin. 1980. Acute toxicity of toxaphene to fathead minnows, channel catfish, and bluegills. U.S. Environmental Protection Agency Publ. EPA/600/03. 79 pp.

Toxaphene is very toxic to fathead minnows (*Pimephales promelas*), channel catfish (*Ictalurus punctatus*), and bluegills (*Lepomis macrochirus*) in static tests; 96-hr LC$_{50}$'s ranged from 2.6 to 20 micrograms/liter at 20° C. Fathead minnows were the least susceptible and bluegill and channel catfish were about equal in susceptibility. Prolonged exposures of 12 to 34 days in flow-through tests produced time-independent LC$_{50}$ values of 0.6 to 1.9 micrograms/liter, significantly lower than the 96-hr values.

The toxicity of toxaphene was not influenced by variations in pH or water hardness in static tests. Temperature seemed to influence rate of onset rather than degree of response. Toxicities were similar at 20° and 25° C in flow-through tests; however, a decrease in the time required for mortality to become asymptotic with time was observed. Time independence was reached after 7 to 16 days of exposure at 25° C, while 24 to 34 days were required at 20° C.

The life stage of channel catfish most sensitive to toxaphene poisoning was the swim-up fry with a 96-hr LC_{50} of 0.8 micrograms/liter. Early yolk-sac fry were extremely resistant, with a 24-hr LC_{50} of 4.76 milligrams/liter; however, within 96 hr the yolk had absorbed and the LC_{50} had declined to 8.0 micrograms/liter.

Note: Copies may be available from USFWS Fish-Pesticide Research Laboratory, Columbia, Mo. 65201.

Kenaga, E. 1979. Acute and chronic toxicity of 75 pesticides to various animal species. Down to Earth 35:2.

Contains useful reference tables listing acute toxicity data for 10 species including the rat, mallard, bobwhite, honey bee, bluegill, rainbow trout, fathead minnow, saltwater fish, daphnia, and shrimp. Includes data for chlorinated hydrocarbon insecticides, insecticides containing phosphorus, carbamate insectcides, miscellaneous insecticides and 19 herbicides. The main purpose of the paper is to examine good toxicity indicator organisms for evaluating hazards of chemicals.

Note: Copies of the paper may be available from Dr. Eugene E. Kenega, Dow Chemical Co., Midland, Mich.

Lorz, H. W., S. W. Glenn, R. H. Williams, C. M. Kunkel, L. A. Norris, and B. R. Loper. 1979. Effects of selected herbicides on smolting of coho salmon. U.S. Environmental Protection Agency Publ. EPA-600/3-79-071.

Static 96-hr LC_{50} values for 12 water-soluble herbicides with yearling coho salmon in freshwater were: acrolein 68 micrograms/liter; dinoseb 100 micrograms/liter; picloram 5.0-17.5 milligrams/liter; 2,4,5-T (triethylamine) >10 milligrams/liter; atrazine >15 milligrams/liter; diquat 30 milligrams/liter; amitrole-T 70 milligrams/liter; paraquat 76 milligrams/liter; dicamba >100 milligrams/liter; and Krenite and 2,4-d (dimethylamine) >200 milligrams/liter. Amitrole-T, diquat, and paraquat exposure in freshwater reduced the survival of salmon smolts placed in seawater. Diquat also inhibited downstream migration of smolts. Under normal field use, acrolein and dinoseb could produce mortality of all life stages of salmonids if treated irrigation waters were released into streams prior to herbicide inactivation. The use of diquat at recommended treatment levels could reduce downstream migration of smolts and decrease survival in seawater. All other herbicide formulations tested appeared to have no effect on smolting of coho salmon.

Macek, K. J, K. S. Buxton, S. Sauter, S. Gnilka, and J. W. Dean. 1976. Chronic toxicity of atrazine to selected aquatic invertebrates and fishes. EPA-600-3-76-047. U.S.

Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 58 pp.

Bluegill, fathead minnow, brook trout and representatives of the aquatic invertebrate species of water flea, midge, and scud were chronically exposed to various concentrations of atrazine in separate flowing-water systems.

Maximum acceptable toxicant concentrations (MATC) of atrazine for the selected species in soft water were estimated using survival growth, and reproduction as indicators of toxic effects. The MATC was estimated to be between 0.11 and 0.23 milligrams/liter for midges, between 0.14 and 0.25 milligrams/liter for water fleas, and between 0.06 and 0.14 for scud. For fishes the MATC was estimated to be between 0.09 and 0.50 milligrams/liter for bluegills, between 0.21 and 0.52 milligrams/liter for fathead minnows, and between 0.06 and 0.12 milligrams/liter for brook trout. The incipient LC_{50} for fishes and the 48-hr LC_{50} for invertebrates was estimated from acute exposures and was used to calculate application factors ($MATC/LC_{50}$). For aquatic invertebrate and atrazine the estimated application factors were between 0.15 and 0.32 for midges, between 0.02 and 0.04 for water flea, and between 0.01 and 0.02 for scud. Application factors were estimated between 0.01 and 0.07 for bluegills, between 0.01 and 0.03 for fathead minnows, and between 0.01 and 0.02 for brook trout.

Macek, K. J., K. S. Buxton, S. K. Derr, J. W. Dean, and S. Sauter. 1976. Chronic toxicity of lindane to selected aquatic invertebrates and fishes. EPA-600-3-76-046. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 58 pp.

Representatives of the aquatic invertebrate species water flea (*Daphnia magna*), midge (*Chironomus tentans*), and scud (*Gammarus fasciatus*); and the fish species bluegill (*Lepomis macrochirus*), and brook trout (*Salvelinus fontinalis*) were chronically exposed to various concentrations of lindane in separate flowing-water systems.

Maximum acceptable toxicant concentrations (MATC) of lindane for the selected species in soft water were estimated using survival, growth, and reproduction as indicators of toxic effects. The MATC was estimated to be between 2.2 and 5.0 micrograms/liter for midges, between 11 and 19 micrograms/liter for the water flea, and between 4.3 and 8.6 micrograms/liter for the scud. For fishes: the MATC was estimated between 9.1 and 12.5 micrograms/liter for bluegills, between 9.1 and 23.5 micrograms/liter for fathead minnows; LC_{50} for fishes and the 48-hr LC_{50} for invertebrates was estimated from acute exposures and used to calculate application factors ($MATC/LC_{50}$). For aquatic invertebrates and lindane, the estimated application factors were between 0.010 and 0.024 for midges, between 0.020 and 0.029 for water flea, and between 0.11 and 0.22 for scud. Application factors were estimated between 0.30 and 0.42 for bluegill, between 0.13 and 0.34 for fathead minnows, and between 0.34 and 0.64 for brook trout.

Menzie, C. M. 1980. Metabolism of pesticides -- Update III. Special Scientific Report Wildlife No. 232. U.S. Fish and Wildl. Serv., Washington, D.C. Note: This supplements 1969, 1974, and 1978 publications of the same approximate title.

Merna, J. W., and P. J. Eisele. 1973. The effects of methoxychlor on aquatic biota. U.S. Environmental Protection Agency Publ. EPA-R3-73-046.

Continuous-flow bioassays yielded 96-hr TL_{50} values for invertebrates ranging from 0.61 micrograms/liter for *Gammarus pseudolimnaeus* to 7.05 micrograms/liter for *Orconectes virilis.* Fathead minnows (*Pimephales promelas*) and yellow perch (*Perca flavescens*) had 96-hr TL_{50} values of 8.63 and 22.2 micrograms/liter of exposure tested between 1.0 and 0.125 micrograms/liter. There was no spawning at 2 micrograms/liter. Growth of yellow perch was retarded at all levels tested between 5.0 and 0.625 micrograms/liter. All perch died at 10 micrograms/liter during the growth study. Perch which had been subjected to long-term exposure to 5 micrograms/liter of methoxychlor had an abnormally high oxygen demand when held in a respirometer with a water velocity of 0.6 ft/sec.

Sanders, H. W. 1980. Sublethal effects of toxaphene on daphnids, scuds, and midges. EPA-600/3-80-006. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. Fish-Pesticide Research Laboratory, Columbia, Mo. 25 pp.

Daphnids, scuds, and midge larvae were continuously exposed to toxaphene in a flow-through system. Exposure of daphnids for a complete life cycle (21 days) to 0.12, 0.28, 0.54, and 1.0 micrograms/liter of toxaphene significantly ($p<0.05$) reduced production of young; the no-effect concentration was 0.07 micrograms/liter. Toxaphene concentrations of 0.25 micrograms/liter and greater significantly ($p<0.05$) reduced growth of scuds, and concentrations of 3.2 micrograms/liter and greater significantly ($p<0.05$) reduced emergence of midges. The no-effect concentrations were 0.13 micrograms/liter for growth of scuds and 1.0 micrograms/liter for emergence of midges.

Daphnids continuously exposed to toxaphene accumulated residues after 7 days that were 4,000 times (based on organism wet weight) the water concentration of 0.06 micrograms/liter. Whole-body residues in midge larvae were below the minimum detection limit of 0.1 micrograms/liter. Maximum acceptable toxicant concentrations (MATC) of toxaphene for the three species of aquatic invertebrates were estimated using reproduction of daphnids, growth of scuds, and emergence of midges as indicators of toxic effects. The MATC was estimated to be between 0.07 and 0.12 micrograms/liter for daphnids, between 0.13 and 0.25 micrograms/liter for scuds, and between 1.0 and 3.2 micrograms/liter for midges.

Smith, L. L., Jr., S. J. Broderius, D. M. Oseid, G. L. Kimball, W. M. Koenst, and D. T. Lind. 1979. Acute and chronic toxicity of HCN to fish and invertebrates. EPA-60/3-79-009. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 129 pp.

Acute and chronic toxicity of hydrogen cyanide to seven fish species and two invertebrates was determined in dynamic flow-through bioassays. The 96-hr LC$_{50}$ concentrations of HCN for juvenile fish ranged from 57 micrograms/liter for rainbow trout at 10° C to 191 micrograms/liter for field stock fathead minnows at 15° C. The fry and juvenile fish were similar in their sensitivity to HCN with eggs being the most tolerant stage. Long-term tests conducted with fathead minnows demonstrated that concentrations of HCN having no effect on egg production were between 12.9 and 19.6 micrograms/ liter. Chronic toxicity tests with brook trout demonstrated on the basis of spawning success, the maximum acceptable toxicant concentration (MATC) was between 5.7 and 11.2 micrograms/liter HCN.

7.5 SEWAGE TREATMENT AND CHLORINATION

Arthur, J., et al. 1975. Comparative toxicity of sewage effluent disinfection to freshwater aquatic life. U.S. Environmental Protection Agency Publ. EPA-600/3-75-012.

Brooks, N. H. 1973. Dispersion in hydrologic and coastal environments. EPA-660/3-73-010. U.S. Environmental Protection Agency and W. M. Keck Laboratory, California Institute of Technology, Pasadena, Calif.

This report summarizes the results of a 5-yr laboratory research project on various flow phenomena of importance to the transport and dispersion of pollutants in hydrologic and coastal environments. The results are useful in two general ways: first, to facilitate the prediction of ambient water quality from effluent characteristics in various water environments; and second, to provide the basis for design of systems (such as outfalls) required to meet given ambient water-quality requirements.

Brungs, W. A. 1976. Effects of wastewater and cooling water chlorination on aquatic life. EPA-600/3-76-098. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, Minn. 52 pp.

The literature since 1972 pertaining to wastewater and cooling-water chlorination is discussed under the following headings: review papers, chlorinated municipal wastewaters, continuously chlorinated water, intermittently chlorinated water, dechlorination, avoidance, formation of chlorinated organic compounds, aquatic life criteria and application factors, and regulations.

Field and laboratory research results support a single criterion of 0.033 milligrams/liter for continuous exposure of freshwater organisms. The former distinction between warm water and cold water systems is no longer appropriate; recent data indicate that several freshwater fish species are as sensitive as trout and salmon.

The present concern for the formation of chlorinated organics in water and waste-waters is justifiable and the greatest present need is to determine the ecological significance, if any, of these results. The future course of waste-water chlorination will be greatly influenced by the recent proposed changes in Environmental Protection Agency regulations on secondary treatment. The changes encourage disinfection only when public health hazards need to be controlled and discourage the exclusive use of chlorine where protection of aquatic life is of primary consideration. Where these requirements coexist, alternate means of disinfection must be considered.

Dills, G. G., and D. T. Rogers. 1972. Aquatic community structure as indicator of pollution. Geological Survey of Alabama. Circular 80. 25 pp.

Gentile, J. H., C. M. Johnson, and S. Sosnowski. 1976. Power plants, chlorine, and estuaries. EPA-600/3-76-055. U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, R.I. 37 pp.

Biological assay systems using indigenous holo- and meroplankton were designed to model the chlorination patterns of power plants. A matrix of chlorine concentrations and exposure patterns permitted the generation of response isopleths that were then applied to developing design criteria. The marine phytoplankter Thalassiosira pseudononona showed a 50% reduction in photosynthesis when exposed to 0.15 ppm Cl_2 for 10 min, and complete growth inhibition after 5 min exposure to 0.3 ppm. Microzooplankton adults were somewhat less sensitive in that a 5-min exposure at 2.5 ppm was necessary to produce 50% mortality. Larval and juvenile fish were sensitive to chlorine levels $<$ 0.2 ppm for exposure periods of 60-90 min.

Two field studies were evaluated and compared to laboratory data with specific emphasis on the use of ATP to monitor entrainment and damages. A review of pertinent literature is also included.

Hall, L. W. Jr., D. T. Burton, S. L. Margney, and K. R. Dixon. 1981. Time-related mortality responses of striped bass (Morone saxatilis) ichthyoplankton after exposure to simulated power plant chlorination conditions. Water Res. (G.B.) 15:903.

Helz, G. R., and D. T. Burton. 1981. Power plant chlorination perspective. Pages 1-5 in L. W. Hall, G. R. Helz, and D. T. Burton. Power plant chlorination -- a biological and chemical assessment. Ann Arbor Sci. Publ. Inc., Ann Arbor, Mich.

Jolley, R., ed. 1976. The environmental impact of water chlorination. Proceedings of a conference held Oct. 22-24, 1975, at Oak Ridge, Tennessee. Oak Ridge National Laboratory. 443 pp.

Note: This report contains 27 papers. Proceedings of similar conferences in 1978 and 1980 were also edited by Jolley and are available from Ann Arbor Science Publishers, Inc., Post Office Box 1425, Ann Arbor, Mich. 48106.

7.6 TESTING AND SAMPLING METHODS

American Society for Testing and Materials. 1980. Practice of conducting acute toxicity tests with fishes, macroinvertebrates, and amphibians. Philadelphia, Pa. ASTM Standard E 729-80. Available from Supt. of Doc. U.S. Government Printing Office, Washington, D.C. 20402.

Bell, M. C. 1973. Fisheries handbook of engineering requirements and biological criteria. Contract No. DACW57-68-C-0086. U.S. Army Corps of Engineers Fisheries-Engineering Research Program, North Pacific Div., Portland, Oreg. 508 pp.

Cairns, J., and Dickson, K. L. 1973. Biological methods for the assessment of water quality. American Society for Testing and Materials, Philadelphia, Pa. ASTM Special Technical Publication No. 528.

Committee on Methods for Toxicity Tests with Aquatic Organisms. 1975. Methods of acute toxicity tests with fish, macroinvertebrates and amphibians. U.S. Environmental Protection Agency Rep. EPA-660/3-75-009. (NTIS PB75-2422105).

Connors, J. T., A. E. Greenberg, and D. Jenkins, eds. 1981. Standard methods for the examination of water and wastewater. 15th ed. American Public Health Association, American Water Works Association, Water Pollution Control Federation. New York. 1,200 pp.

Order S0025 -- $50.00 nonmembers, $40.00 members. Water Pollution Control Federation, 2626 Pennsylvania Ave., N.W., Washington, DC 20037.

Gonor, J. J., and P. F. Kemp. 1978. Procedures for quantitative ecological assessments in intertidal environments. EPA-600/3-78-087. U.S. Environmental Protection Agency, Office of Research and Development, Corvallis, Oreg. 112 pp.

The report by Oregon State University, School of Oceanography and Marine Science Center is an effort to assemble the best available published procedures for quantitative ecological studies in marine intertidal benthic environments, applicable to evaluating existing or potential pollution effects. Considerable material on how to rigorously devise sampling programs is included. Methods and procedures recommended are synthetic and compiled from a variety of sources.

Guidelines are intended for application in marine intertidal ecological impact assessments, pre- and post-pollution baseline surveys, and long term monitoring programs intended for the detection and forecasting of potential and human impacts in the intertidal environment.

Gillett, J. W. 1982. Part 2. Laboratory microcosm tests. Pages 150-164 in W. Mason and S. Iker, eds. Research on fish and wildlife habitat. U.S. Environmental Protection Agency Rep. EPA-600/8-82-022.

Jones, J. R., B. H. Tracy, J. L. Sebaugh, D. H. Hazelwood, and M. M. Smart. 1981. Biotic index tested for ability to assess water quality of Missouri Ozark streams. Trans. Am. Fish. Soc. 110:627-637.

"The Biotic Index (BI), a numerical index that combines the pollution tolerance of benthic insects with estimates of community structures. It also integrates the biology, natural history and tolerance to organic pollution of the species collected." It is used for discriminating differences in water quality.

Mount, D. I. 1982. Research progress on ecotoxicology. Part 1. Single species tests. Pages 143-149 in W. Mason and S. Iker, eds. Research on fish and wildlife habitat. U.S. Environmental Protection Agency Rep. EPA-600/8-82-022.

Porcella, D. B., and M. L. Cleave. 1981. The use of bioassay approaches for assessing phytoplankton growth in lakes and reservoirs. Pages 276-314 in M. W. Lorenze, ed. Phytoplankton -- environmental interactions in reservoirs. Vol. I. Tech. Rep. 9-81-13. U.S. Army Eng. Waterways Exp. Stn. Vicksburg, Miss.

Sprague, J. B. 1969. Measurement of pollutant toxicity to fish. I. Bioassay methods for acute toxicity. Water Res. 3:793-821.

Sprague, J. B. 1970. Measurement of pollutant toxicity to fish. II. Utilizing and applying bioassay results. Water Res. 4:3-32.

U.S. Environmental Protection Agency. 1979. Methods for chemical analysis of water and wastes. EPA-600/4-79-020.

Note: This inorganic methods manual is being reprinted. Contact USEPA, EMSL, Cincinnati, OH 45268 for information.

U.S. Environmental Protection Agency. 1982. Methods for organic chemical analysis of municipal and industrial wastewater. EPA-60/4-82-057. Office of Research and Development. Cincinnati, Ohio.

Collection of organic analytical methodology, originally proposed in the Federal Register (Vol. 44, No. 23, 3 December 1979, p. 69464) is available through the Office of Research and Development (ORD) Publications. The methods appeared in the Federal Register under "Guidelines Establishing Test Procedures for the Analysis of Pollutants" and included two

appended methods that have been incorporated into Methods of Chemical Analysis of Water and Wastes (EPA-600/4-79-020) and Technical Additions to Methods for Chemical Analysis of Water and Wastes (EPA-600/4-82-055).

Note: Contact James Lichtenberg, FTS 684-7308 and James Longbottom, FTS 684-7311 for additional information.

7.7 WATER QUALITY ASSESSMENT METHODS

Burns, L. A., D. M. Cline, and R. R. Lassiter. 1982. Exposure analysis modeling system (EXAMS). EPA-600-3-82-023. U.S. Environmental Protection Agency, Athens, Ga. 30613.

Donigian, A. S., Jr. and N. H. Crawford. 1976. Modeling pesticides and nutrients on agricultural lands. EPA-600/2-76-043. U.S. Environmental Protection Agency, Athens, Ga.

Mason, William T., Jr.. 1983. Selected microcomputer programs for water quality assessments (experimental). Internal draft report of Nov. 14, 1983.

This album of microcomputer programs is designed for EPA and FWS regional and field office users for assistance with water quality assessments, EIS, and waste-load permit reviews. Includes program diskette for Apple microcomputer.

Note: This program is in developmental stages and version one was recently published by NCET. Interested parties can contact the author, William T. Mason, Jr., USFWS, who may be contacted at FTS 653-8738 or through NCET.

Mills, W. B., J. D. Dean, D. B. Porcella, S. K. Gherini, R. Hudson, W. E. Frick, G. L. Rupp, and G. L. Bowie. 1982. Water quality assessment: a screening procedure for toxic and conventional pollutants. EPA-600/ 6-82-004a. U.S. Environmental Protection Agency, Environmental Research Laboratory, Office of Research and Development, Athens, Ga.

This report, among other things, outlines procedures that can be used to generate estimates of diffuse (nonpoint) and point-source loads.

Pennsylvania Department of Environmental Resources. 1983. Waste load allocation model: user guide. Pa. DER, Bureau of Water Quality Management.

This is a package of computer programs designed to perform allocations, data management, and reporting for effluent concentrations and percent removal of pollutants. The Apple computer and data about flow, DO, BOD, NH_3, pH, and temperature are requisites.

Contact: William T. Mason, Jr., NCET U.S. Fish and Wildlife Service, Slidell, La., or Pa. DER.

Terrell, J., T. E. McMahon, P. D. Inskip, R. F. Raleigh, and K. L. Williamson. 1982. Habitat suitability index models: appendix A. Guidelines for riverine and lacustrine applications of fish HSI models with the habitat evaluation procedures. U.S. Fish and Wildl. Serv. FWS/OBS-82/10.A.

U.S. Environmental Protection Agency. 1978. Water quality indices: a survey of indices used in the United States. EPA-600/4-78-005. Washington, D.C.

U.S. Environmental Protection Agency. 1982. Water quality assessment: a screening procedure for toxic and conventional pollutants. EPA-600/6-82-004. May be available from: U.S. Environmental Protection Agency, ORD Publications, CERI, Cincinnati, OH 45268.

Whittemore, R. C., and J. Hovis. 1982. A study of the selection, calibration, and verification of mathematical water quality models. Tech. Bull. 367, National Council of the Paper Industry for Air and Stream Improvement, Inc., 260 Madison Ave., New York.

APPENDIX A - DIRECTORIES

Table A-1. List of NPDES permit authorities.

Charles Horn
Alabama Department of
Environmental Management
State Capitol
Montgomery, Alabama 36130
(205) 277-3630

Alaska Operation Office
EPA
Room E-535, Federal Building
701 C Street
Anchorage, Alaska 99513
(907) 271-5083

Alaska Department of
Environmental Conservation
Pouch O
Juneau, Alaska 99811
(907) 465-2600

American Samoa Executive
Secretary
Environmental Quality
Commission
Pago Pago, American Samoa
96920

Arizona Department of Health
Services
Bureau of Water Quality
1740 West Adams Street
Phoenix, Arizona 85007
(602) 255-1277
NPDES Permits: (602) 255-1252

Arkansas Department of
Pollution Control and
Ecology
8001 National Drive
Little Rock, Arkansas 72209
NPDES Permits: (501) 371-1701
Philadelphia, Pennsylvania

California State Water
Resources Control Board
NPDES - Post Office Box 100
Sacramento, California 95801
(916) 322-3133

Colorado Department of Health
NPDES Permits, Water Quality
Control Division
4210 East 11th Avenue
Denver, Colorado 80220
(303) 320-8333 Ext. 3231

Connecticut Department of
Environmental Protection
NPDES Permits, State office
Building
165 Capitol Avenue
Hartford, Connecticut 06115
(203) 566-5760

(continued)

Table A-1. (Continued).

State of Delaware
Department of Natural
Resources and Environmental
Control
NPDES Permits
Post office Box 1401
Dover, Delaware 19901
(302) 678-4761

District of Columbia,
Water Quality Control Division
Department of Public Health
801 Capitol Street, N.E.
Washington, D.C. 20004
(202) 727-5748
NPDES Permits - EPA
Philadelphia, Pennsylvania

Mike McGhee, Chief
South Water Permits
Water Management Division
Environmental Protection
Agency
345 Courtland Street
Atlanta, GA 30365
(403) 881-2913

Gene Welsh, Chief
Water Protection Branch
Environmental Protection Division
Georgia Department of Natural
Resources
270 Washington Street, S.W.
Room 822
Atlanta, Georgia 30334
(404) 656-6593

O. V. Matarajan, Administrator
Guam Environmental Protection
Agency
Agana, Guam 96910

Hawaii State Department of
Health
Pollution Technical Review
Branch
NPDES Permits
Post Office Box 3378
Honolulu, Hawaii 96801
(808) 548-6908

State of Idaho,
Department of Health and
Welfare
Division of the Environment
Bureau of Water Quality
Boise, Idaho 83720,
NPDES Permits: Idaho
Operation Office, EPA,
422 West Washington Street
Boise, Idaho 83702
(208) 384-1450

Illinois Environmental
Protection Agency,
Permits Section
2200 Churchill Road
Springfield, Illinois 62706
(217) 782-0610 or 3362

Indiana Stream Pollution
Control Board
NPDES Permits
1330 West Michigan Street
Indianapolis, Indiana 46206
(317) 633-0715

Iowa Department of
Environmental Quality
NPDES Permits
Henry A. Wallace Building
900 East Grand
Des Moines, Iowa 50313
(515) 281-8974 or 8891

Kansas Department of Health
and Environment
NPDES Permits
Bureau of Water Quality
Building 740 - Forbes Field
Topeka, Kansas 66620
(913) 862-9360

(continued)

Table A-1. (Continued).

Richard T. Shogren, Director
Division of Water
Kentucky Natural Resources and Environmental Protection Cabinet
Ft. Boone Plaza
18 Reilly Road
Frankfort, Kentucky 40601
(502) 564-3410

Louisiana Department of Natural Resources
Water Pollution Control Division
625 North 4th Street
Baton Rouge, Louisiana 70804
(504) 342-6362
NPDES Permits - EPA, Dallas

Maine Department of Environmental Protection
NPDES Permits
Director of Licensing and Enforcement
Hospital Road
Augusta, Maine 04333
(207) 289-2591

Maryland Department of Natural Resources
Office of Environmental Programs
NPDES Permits
Tawes State Office Building
Annapolis, Maryland 21401
(301) 269-3821

Massachusetts Division of Water Pollution Control
NPDES Permits
110 Tremont Street
Boston, Massachusetts 02108
(617) 727-3855

Water Quality Division,
Michigan Department of Natural Resources
NPDES Permits
Stevens T. Mason Building
Lansing, Michigan 48909
(517) 373-8088

Minnesota Pollution Control Agency
Water Quality Division
Permits Section
1935 West County Road B-2
Roseville, Minnesota 55113
(612) 296-7228

Barry S. Royals, P.E.
Chief, Water Division
Bureau of Pollution Control
Mississippi Department of Natural Resources
Post Office Box 10385
Jackson, Mississippi 39209
(601) 961-5171

Missouri Department of Natural Resources
Division of Environmental Quality
Water Pollution Control Program
NPDES Permits
Box 1368
Jefferson City, Missouri 65161
(314) 751-3241

(continued)

Table A-1. (Continued).

Montana Department of Health and Environmental Sciences
Water Quality Bureau
Permits Section
Capitol Station
Helena, Montana 59601
(406) 449-2406

Nebraska Department of Environmental Control
301 Centennial Mall South
NPDES Permits
Box 94877
Lincoln, Nebraska 68509
(402) 471-2186

Nevada Division of Environmental Protection
201 South Fall Street
Room 221
Carson City, Nevada 89710
(702) 885-4670

New Hampshire Water Supply and Pollution Control Commission
Permits and Surveillance
105 Loudon Road
Concord, New Hampshire 03301
(603) 271-3503

New Jersey Department of Environmental Protection
Division of Water Resources
NPDES Permits
Trenton, New Jersey 08625
(609) 292-6220

New Mexico Environmental Improvement Division
Water Pollution Control Bureau
NPDES Permits
Post Office Box 968
Santa Fe, New Mexico 87503
(505) 827-5271

New York Department of Environmental Conservation
Division of Water
NPDES Permits
501 Wolf Road
Albany, New York 12233
(518) 457-6956

Lee Fleming, Chief
Water Quality Section
Division of Environmental Management
North Carolina Department of Natural Resources and Community Development
Post Office Box 27687
Raleigh, North Carolina 27611
(919) 733-5083

Division of Water Supply and Pollution Control
NPDES Permits
North Dakota State Department of Health
1200 Missouri Avenue
Bismark, North Dakota 58505
(701) 224-2354

Ohio Environmental Protection Agency
Division of Industrial Wastewater
361 East Broad Street
Columbus, Ohio 43216
(614) 466-2390

Oklahoma Water Resources Board
Water Quality Division
1000 N.E. 10th Street
Oklahoma City, Oklahoma 73105
(405) 271-2541
NPDES - EPA, Dallas

(continued)

Table A-1. (Continued).

Oregon Department of
Environmental Quality
NPDES Permits
1234 S.W. Morrison Street
Portland, Oregon 97205
(503) 229-5325

Pennsylvania Department of
Environmental Resources
Division of Nonpoint and
Industrial Sources
Bureau of Water Quality
Management
Post Office Box 2063
Harrisburg, Pennsylvania
21720
(717) 787-8184

Puerto Rico Environmental
Quality Board
Water Quality Board
NPDES Permits
Post Office Box 11488
Santurce, Puerto Rico 00910
(809) 725-5140 ext. 271, 276

Division of Water Resources
Rhode Island Department of
Environmental Management
Room 209
75 Davis Street
Providence, Rhode Island
72908
(401) 227-2234

Bob Gross, Director
Industrial and Agricultural
Wastewater
South Carolina Department of
Health and Environmental
Control
2600 Bull Street
Columbia, South Carolina
29201
(803) 758-3877

Office of Water Quality
South Dakota Department of
Water and National Resources
Room 413, Joe Foss Building
Pierre, South Dakota 57501
(605) 773-4523

Paul E. Davis, Manager
Permits Section
Division of Water Management
Tennessee Department of Health
and Environment
TERRA Building
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

Texas Department of Water
Resources
Stephen F. Austin Building
1700 North Congress,
Austin, Texas
(512) 475-7896
NPDES - EPA
Post Office Box 13087
Capitol Station
Dallas, Texas 78701

Executive Director
Environmental Protection Board
Trust Territory of the Pacific
Islands
Saipan, Mariana Islands 98950

State of Utah
Bureau of Water Pollution
Control
NPDES Permits - EPA
Post Office Box 2500
Salt Lake City, Utah 84110
(801) 533-6146

(continued)

Table A-1. (Concluded).

Vermont Agency of
Environmental Conservation
NPDES Permits
State Office Building
Montpelier, Vermont 05602
(802) 828-3345

Virgin Islands Division of
Natural Resources Management
Building 129, Sub Base
St. Thomas, Virgin Islands
00801
(809) 774-6420

Virginia State Water Control
Board
NPDES Permits
Bureau of Applied Technology
Post Office Box 11143
Richmond, Virginia 23230
(804) 257-6361

State of Washington Department
of Ecology
NPDES Program
Olympia, Washington 98504
(206) 753-3864; 2800

Water Resources Division
West Virginia Department of
Natural Resources
1201 Greenbrier Street
Charleston, West Virginia
25305
(304) 348-2107

Wisconsin Department of
Natural Resources
NPDES Permits
Environmental Engineer
Box 7921
Madison, Wisconsin 53707
(608) 266-0156

Wyoming Department of
Environmental Quality
Water Quality Division
401 West 19th Street
Cheyenne, Wyoming 82002
(307) 777-7781

Table A-2a. Some useful EPA addresses. (Departmental)

	Telephone
OFFICE OF THE ADMINISTRATOR	
Administrator William D. Ruckelhaus (A-100)	382-4700
Deputy Administrator Alvin L. Alm (A-101)	382-4711
ASSOCIATE ADMINISTRATOR FOR INTERNATIONAL ACTIVITIES	
Associate Administrator Fitzhugh Green (A-106)	382-4870
Deputy Associate Administrator William Mansfield (A-106)	382-4870
ASSISTANT ADMINISTRATOR FOR ENFORCEMENT AND COMPLIANCE MONITORING	
Assistant Administrator Courtney M. Price (LE-133)	382-4134
Special Assistant Jane C. Souzon (LE-133)	382-4148
Senior Enforcement Counsel Richard H. Mays (LE-133)	382-4137
Special Assistant (Vacant) (LE-133)	382-4136
Office of Legal and Enforcement Policy	
Director Richard H. Robinson (Acting) (LE-130A)	382-4541
National Enforcement Investigations Center Building 53, Box 25227, Denver, CO 80225	
Director Thomas P. Gallagher	8-776-5100
ASSISTANT ADMINISTRATOR FOR EXTERNAL AFFAIRS	
Assistant Administrator Josephine S. Cooper (A-100EA)	382-5654
Deputy Assistant Administrator Richard E. Sanderson	475-8200
Management Operations Staff Donald D. Flattery (A-100EA)	382-4416
Office of Federal Activities	
Director Allan Hirsch (A-104)	382-5053
Deputy Director David G. Davis (A-104)	382-5053
ASSISTANT ADMINISTRATOR FOR WATER	
Assistant Administrator Jack E. Ravan (WH-556)	382-5700
Deputy Assistant Administrator Henry L. Longest II (Acting) (WH-556)	382-5707
Office of Drinking Water	
Director Victor Kimm (WH-550)	382-5508
Deputy Director Arnold Kuzmack (Acting) (WH-550)	382-5508

(continued)

Table A-2a. (Continued).

	Telephone
Criteria and Standards Division	
Director Joseph Cotruvo (WH-550)	382-7575
Health Effects Branch	
Chief William Lappenbusch (WH-550)	382-7571
Science and Technology Branch	
Chief Arthur Perler (WH-550)	382-3022
Technical Support Division - Cincinnati, OH 45268	
Director Lowell VanDenBerg (WH-550)	8-684-7904
Drinking Water Quality Assessment Branch	
Chief Herbert Brass	8-684-7936
Water Supply Technology Branch	
Chief James Westrick	8-684-7908
Office of Ground Water Protection	
Director Marian Mlay (WH-550)	382-7077
Office of Water Enforcement and Permits	
Director Rebecca W. Hanmer (EN-335)	475-8488
Deputy Director James R. Elder (EN-335)	475-8488
Enforcement Division	
Director Robert Zoller (EN-338)	475-8304
Compliance Branch	
Chief David N. Lyons (EN-338)	475-8310
Drinking Water and Special Enforcement Branch	
Chief Don Olson (EN-338)	475-8307
Permits Division	
Director Martha Prothro (EN-336)	755-2545
Deputy Director Frank E. Hall (EN-336)	755-2545
Consolidated permits Branch	
Chief William Diamond (EN-336)	426-7035
NPDES Programs Branch	
Chief James E. Gallup (EN-363)	755-0750
NPDES Technical Support Branch	
Chief J. William Jordan (EN-336)	426-7010
Office of Water Program Operations	
Director Henry L. Longest II (WH-546)	382-5850
Deputy Director William Whittington (WH-546)	382-5853
Office of Marine Discharge Evaluation	
Chief Paul Pan (Acting) (WH-546)	755-9231

(continued)

Table A-2a. (Continued).

	Telephone
Water Planning Division	
Director Carl F. Myers (Acting) (WH-554)	382-7100
Implementation Branch	
Chief James Meek (WH-554)	382-7085
Office of Water Regulations and Standards	
Director Edwin L. Johnson (WH-551)	382-5400
Deputy Director Albert J. Erickson (WH-551)	382-5400
Office of Analysis and Evaluation	
Director (Vacant) (WH-586)	382-5389
Deputy Director Peter Wise (Acting) (WH-586)	382-5389
Criteria and Standards Division	
Director Patrick Tobin (WH-585)	755-0100
Deputy Director (Vacant)	
Criteria Branch	
Chief David Sabock (WH-585)	245-3042
EIS Task Force	
Chief William Shilling (WH-585)	245-3036
Marine Protection Branch	
Chief T.A. Wastler (WH-585)	755-0356
Ocean Programs Branch	
Chief William Beller (WH-585)	245-3154
Effluent Guidelines Division	
Director Jeffrey Denit (WH-552)	382-7120
Deputy Director Devereaux Barnes (WH-552)	382-7120
Monitoring and Data Support Division	
Director Edmund M. Notzon (WH-553)	382-7040
Deputy Director Fredrick D. Leutner (WH-553)	382-7040
Data Processing and User Assistance Branch	
Chief Charles S. Conger (WH-553)	382-7220
Monitoring Branch	
Chief Tim Stuart (WH-553)	382-7074
Water Quality Analysis Branch	
Chief Alec McBride (WH-553)	382-7046
ASSISTANT ADMINISTRATOR FOR SOLID WASTE AND EMERGENCY RESPONSE	
Assistant Administrator Lee M. Thomas (WH-562A)	382-4610
Deputy Assistant Administrator	
Jack McGraw (WH-562A)	382-4610

(continued)

Table A-2a. (Continued).

	Telephone
Office of Emergency and Remedial Response (Superfund)	
Director William N. Hedemer, Jr. (WH-548)	382-2181
Deputy Director William Kovalick (WH-548)	382-2181
Hazardous Response Support Division	
Director Kenneth E. Biglane (WH-548A)	475-8600
Deputy Director James Makris (WH-548A)	475-8600
Office of Waste Programs Enforcement	
Director Gene A. Lucero (WH-527)	382-4814
CERCLA Enforcement Division	
Director Francis J. Biros (Acting) (WH-527)	382-4814
RCRA Enforcement Division	
Director Anthony Montrone (Acting) (WH-527)	382-4823
ASSISTANT ADMINISTRATOR FOR AIR AND RADIATION	
Assistant Administrator Joseph Cannon (ANR-443)	382-2900
Deputy Assistant Administrator Sheldon Myers (ANR-443)	382-5575
ASSISTANT ADMINISTRATOR FOR PESTICIDES AND TOXIC SUBSTANCES	
Assistant Administrator John A. Moore (TS-788)	382-2900
Deputy Assistant Administrator Marcia E. Williams (TS-788)	382-2920
Office of Pesticide Programs	
Director Steve Schatzow (TS-766C)	557-7090
Office of Toxic Substances	
Director Don R. Clay (TS-792)	382-3813
TSCA Assistance Office	
Director Edward Klein (TS-799)	382-3790
ASSISTANT ADMINISTRATOR FOR RESEARCH DEVELOPMENT	
Assistant Administrator Bernard D. Goldstein (RD-672)	382-7676
Deputy Assistant Administrator Donald J. Ehreth (RD-672)	382-7676

(continued)

Table A-2a. (Concluded).

	Telephone
Office of Environmental Engineering and Technology Director Carl R. Gerber (RD-681)	382-2600
Office of Environmental Processes and Effects Research Director Erich Bretthauer (RD-682)	382-5950
Toxics and Pesticides Division Director Charles Hendricks (Acting) (RD-682)	382-5960
Water and Land Division Director Herbert Quinn (RD-675)	382-5940
Office of Exploratory Research Director Herbert L. Wiser (RD-675)	382-5750
Office of Health Research Director Robert L. Dixon (RD-683) (Acting)	382-5900
Air, Noise, and Radiation Health Research Division Director Frode Ulvedal (Acting) (RD-683)	382-5893
Water and Toxic Substances Health Research Division Director Frode Ulvedal (Acting) (RD-683)	382-5893
Office of Monitoring Systems and Quality Assurance Director Courtney Riordan (RD-680)	382-5767

Note: The mailing address for EPA is:
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Table A-2b. Some useful EPA addresses. (Laboratories).

	Telephone
Environmental Sciences Research Laboratory Director A. Paul Altshuller (MD-59) Research Triangle Park, NC 27711	8-629-2191 CML (919) 549-8411
Robert S. Kerr Environmental Research Laboratory Director Clinton W. Hall P.O. Box 1198 Ada, OK 74820	8-743-2224 CML (405) 732-8800
Environmental Research Laboratory Director William T. Donaldson (Acting) College Station Road Athens, GA 30613	8-250-3430 CML (404) 546-3134
Environmental Research Laboratory Director Thomas Murphy 200 SW 35th Street Corvallis, OR 97330	8-420-4601 CML (503) 757-4601
Environmental Research Laboratory Director Norbert A. Jaworski 6201 Congdon Blvd. Duluth, MN 55804	8-783-9550 CML (218) 727-6692
Monticello Field Station Box 500 Monticello, MN 55362	(CML only) (612) 295-5145
Large Lakes Research Station 9311 Groh Road Grosse Ile, MI 48138	8-226-7811 CML (313) 675-5000
Environmental Monitoring Support Laboratory Director Robert L. Booth 26 W. St. Clair Street Cincinnati, OH 45268	CML (513) 684-7771
Environmental Research Laboratory Director William Brungs South Ferry Road Narragansett, RI 02882	8-838-5087 CML (401) 789-1071

(continued)

Table A-2b. (Concluded).

	Telephone
Environmental Research Laboratory Director Henry F. Enos Sabine Island Gulf Breeze, FL 32561	8-686-9011 CML (401) 932-5311
Bears Bluff Field Station Box 368 Johns Island, SC 29455	8-577-4171 CML (803) 599-0371
Environmental Monitoring Systems Laboratory/ORD P.O. Box 15027 Las Vegas, NV 89114	8-545-2100 CML (702) 798-2100

Table A-2c. Some useful EPA addresses (Regional).

EPA's Regional Offices & Selected Field Stations

REGION 1

Regional Office

Regional Administrator: Michael R. Deland FTS 223-7210
John F. Kennedy Federal Building
Room 2203
Boston, MA 02203 CML (617) 223-7210
Water Quality CML (617) 223-5134
Pesticides CML (617) 223-5126

Lexington, Massachusetts:

New England Regional Laboratory (Technical Support)
60 Westview Street FTS 861-6700
Lexington, MA 02173 CML (617) 861-6700

REGION II

Regional Office

Regional Administrator: Jacqueline E. Schafer
26 Federal Plaza, Room 900 FTS 264-2525
New York, NY 10278 CML (212) 264-2525
Permits FTS 264-9881
Carribbean Field Office FTS 753-4920
Carribbean Field Office CML (809) 725-7825
Wetlands FTS 264-5170

REGION III

Regional Office

Regional Administrator: Thomas P. Eichler FTS 597-9814
Curtis Building
6th & Walnut Streets
Philadelphia, PA 19106 CML (215) 597-9814
Permits FTS 597-9077

Annapolis, Maryland

Central Regional Laboratory
839 Bestgate Road FTS 922-3752

(continued)

Table A-2c. (Continued).

REGION IV

Regional Office

Regional Administrator: Charles R. Jeter FTS 257-4727
345 Cortland St., N.E. CML (404) 881-4727
Atlanta, GA 30365

Bay St. Louis, Mississippi

National Space Technology Laboratory FTS 494-3212
Toxicant Analysis Center, Bldg. 1105 CML (601) 688-3212
Bay St. Louis, MS 39529

REGION V

Regional Office

Regional Administrator: Valdas V. Adamkus
230 South Dearborn St. FTS 353-2000
Chicago, IL 60604 CML (312) 353-2000
(Hours: 8:15 a.m. - 4:45 p.m.)
Water Quality FTS 353-2079

Center For Environmental Research Information (Request EPA Publs.)
26 West St. Clair St. FTS 684-7391
Cincinnati, OH 45268 CML (513) 684-7391

REGION VI

Regional Office

Regional Administrator: Dick Whittington FTS 729-2600
First International Building
1201 Elm Street
Dallas, Texas CML (214) 767-2600
Permits FTS 729-4375

REGION VII

Regional Office

Regional Administrator: Morris Kay FTS 758-5493
324 East 11th Street
Kansas City, MO 64106 CML (816) 374-5493
Water Quality FTS 758-5429

(continued)

Table A-2c. (Continued).

REGION VIII

Regional Office

Regional Administrator: John G. Wells FTS 327-3895
1860 Lincoln Street
Denver, CO 80295 CML (303) 837-3895

Denver, Colorado

National Enforcement Investigations Center FTS 234-4650
Building 53, Box 25227
Denver, CO 80225 CML (303) 234-4650

REGION IX

Regional Office

Regional Administrator: Judith E. Ayres FTS 454-8153
215 Fremont Street
San Francisco, CA 94105 CML (415) 974-8153
(Hours: 8:30 a.m. - 5:00 p.m.)
Permits FTS 454-8010

Honolulu, Hawaii

Pacific Islands Contact Office FTS 546-8910
P.O. Box 50003
Room 1302
300 Ala Moana Boulevard
Honolulu, HI 96850 CML (808) 546-8910

REGION X

Regional office

Regional Administrator: Ernesta B. Barnes FTS 399-5810
1200 6th Avenue
Seattle, WA 98101 CML (206) 442-5810
(Hours: 8:00 a.m. - 4:30 p.m.)

Anchorage, Alaska

Alaska Operations Office FTS (907) 271-5083
Room E556, Federal Building
701 C Street
Anchorage, AK 99513 CML (907) 271-5083

(continued)

Table A-2c. (Concluded).

Juneau, Alaska	
Alaska Operations Office Pouch O Juneau, AK	FTS (907) 465-2698 CML (907) 465-2698
Boise, Idaho	
Idaho Operations Office 422 West Washington Street Boise, ID 83702	FTS 554-1450 CML (208) 334-1450
Newport, Oregon (Field Office of ERL-Narragansett, R.I.)	
Marine Division Environmental Research Laboratory/ORD Marine Science Center Marine Science Drive Newport, OR 97365	FTS (503) 867-4041 CML (503) 867-4041
Portland, Oregion	
Oregon Operations Office 522 S.W. 5th Avenue Portland, OR 97204	FTS 423-3250 CML (503) 221-3250

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APPENDIX B - MEMORANDUM REGARDING APPLICATION OF FISH AND WILDLIFE COORDINATION ACT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 1 1976

OFFICE OF
GENERAL COUNSEL

MEMORANDUM

TO : Assistant Administrator for Enforcement (EN-335)

FROM : General Counsel (A-130)

SUBJECT: Sun Enterprises, Ltd. v. Train, Nos. 75-6068 and 75-4164 (2d Circuit, March 12, 1974)

While dismissing a petition for review of an NPDES permit filed after expiration of the statutory 90-day deadline (§509, FWPCA), the Second Circuit recently issued a firm reminder to EPA and the Department of the Interior that the Fish and Wildlife Coordination Act applies to all NPDES permits, and that it would insist upon strict compliance by both agencies with the consultation requirements of the Act.

In its opinion in the above-captioned case (attached), the Second Circuit decided it did not have jurisdiction to entertain a petition for review filed more than 90 days after issuance of an NPDES permit. In so doing, the court rejected petitioners' arguments that jurisdiction existed in the district court under the Administrative Procedure Act (5 U.S.C. §701 *et seq.*), 28 U.S.C. §1331 (Federal question), 28 U.S.C. §1361 (mandamus), and §505 of the FWPCA (citizen suits). Although the record indicated that petitioners did not have notice of the issuance of the permit until some time after its issuance, the court found that they did have notice before the expiration of the 90 days, and that therefore lack of notice was not "grounds which arose after such ninetieth day," allowing review under §509 of the FWPCA. This holding was reinforced by the court's finding that the petitioners delayed even beyond 90 days after they demonstrably had notice before filing their petition for review.

Although holding the petition for review to be time-barred, the court in *dicta* indicated that (1) the Fish and Wildlife Coordination Act requirement of consultation with the Department of the Interior applies to *all* NPDES permits (the Government had argued that the consultation requirement applied only to permits associated with traditional water-resource modification activities, such as diversion, dam construction, and the like, or where large discharges of silt would physically alter the watercourse); (2) that the Department of the Interior has an obligation to review all NPDES permits forwarded to it by EPA, notwithstanding any lack of funds or personnel; and (3) that the Administrator's failure to provide Interior sufficient information to evaluate fish and wildlife impacts of an NPDES permit, and Interior's failure to review such a permit, are issues which may be raised in connection with a timely petition for review under §509.

Robert V. Zener

Robert V. Zener

Attachment

cc: All Regional Counsel
All Regional Enforcement Directors

APPENDIX C - CASE STUDIES[1]

MICHIGAN CASE STUDY

The State of Michigan conducts an EPA-approved NPDES permit program with oversight by the Regional administrator EPA - Chicago. The State conducts a very aggressive water quality improvement program, has rather strict technically sound water quality standards, and has developed guidelines of many kinds to direct State actions.

Ecological Services (ES) personnel (East Lansing, Michigan field office) have developed a successful working relationship with the State that enables the Service to influence State permit decisions, and to review other aspects of the State water quality program, e.g., standard revisions. The following exhibits illustrate ways in which ES can influence state actions.

Exhibit M-1. Letter from ES to Tanner (Michigan) dated November 26, 1980, regarding proposed permit effluent limitations for copper and zinc - Revere Copper and Brass, Inc. Note concern about synergism and toxicity in mixing zones.

Exhibit M-2. Response of December 9, 1980, from Jackson (Michigan) to Williams (ES) noting changes have been made as requested by ES in part.

Exhibit M-3. Letter from area manager (FWS) to Tanner (Michigan) dated June 18, 1979, concerning Goodyear Tire and Rubber Company permit. Note that in this letter ES is trying to pressure the State into reducing proposed pH limits, maximum discharge flows, and objecting to a variance to Michigan water quality standards. Note also the reference to P.L. 95-217, the suggestion of possible synergistic action of high pH values with toxic substances, the request that the State hold up action on the permit, and the copy being sent to EPA.

Exhibit M-4. Letters from Bek (Michigan) to Popowski (FWS) dated June 7, 1979 and July 6, 1979, indicating a partial response by Michigan to Service concerns about pH levels.

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[1] These "case studies" are for purposes of illustrating communication techniques and are not complete analyses or a complete record of Fish and Wildlife Service action.

Exhibit M-5. Letter from ES Supervisor Odin to Tanner (Michigan) dated October 6, 1978. Several points are illustrated in this letter. ES calls attention to data deficiencies covering the mixing zones, map, and the lack of a Fact Sheet accompanying the Public Notice. Note again that a copy of the letter went to EPA, Chicago.

Exhibit M-6. Letter from Zollner (Michigan) to Oddan (ES) dated September 15, 1982, concerning agreement reached about the categories of waste water discharges for which the Service would like to receive Public Notices and Fact Sheets.

Exhibit M-7. Letter from Kolar (ES) to Zollner (Michigan) dated September 29, 1982, confirming the above arrangement for screening permits.

Exhibit M-8. Letter from Manzardo (USEPA) to Turney (Michigan) dated April 29, 1976, calling attention to the requirements for the States to help EPA consult with the Service about NPDES permits because of applicability of the Fish and Wildlife Coordination Act.

November 26, 1980

Dr. Howard A. Tanner, Director
Michigan Department of Natural Resources
Stevens T. Mason Building
Lansing, Michigan 48909

Attn: Mr. Karl Zollner

EXHIBIT M-1

Re: NPDES Permit No. MI 0002372
Revere Copper and Brass, Inc.
5851 West Jefferson Avenue
Detroit, Michigan 48209

Dear Dr. Tanner:

The Fish and Wildlife Service has reviewed the Public Notice, Fact Sheet, and Proposed Permit for Revere Copper and Brass, Inc.

According to the public notice, the plant has a complex process waste discharge containing numerous heavy metals. Lloyd, 1961, has shown that two of these metals act in a synergistic fashion. We, therefore, request evidence to support the proposed limitations of 0.6 mg/l for zinc and 0.40 mg/l for copper.

Our belief is that the combination of these two heavy metals in the discharge may be acutely toxic in the mixing zone. We also recommend that sediment analysis be undertaken to determine the concentrations of heavy metals in the sediments immediately below the discharge. In addition to reporting the concentrations of heavy metals in the sediments, it would be valuable for the applicant to note the types of organisms present below the discharge.

If information concerning the sediments downstream of this outfall are already available, we would appreciate receiving the results of the analysis. We will await your response to the zinc/copper question before taking any further action on the proposed permit.

We appreciate the opportunity to comment on this public notice. If you have any questions concerning our comments, please contact Mr. T.J. Miller of my staff at 517-337-6629.

Sincerely yours,
/s/ Clyde R. Odin
Supervisor

cc: U.S. EPA Office of Environmental Review, Chicago, IL

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
CARL T. JOHNSON
E.M. LAITALA
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES
HOWARD A. TANNER, Director

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

December 9, 1980

EAST LANSING FIELD OFFICE
RECEIVED
DEC 15 1980
ES
EAST LANSING, MICHIGAN
U.S. FISH & WILDLIFE SERVICE

EXHIBIT M-2

Mr. Ray C. Williams
United States Department of the Interior
Fish and Wildlife Service
Room 301, Manly Miles Building
1405 South Harrison Road
East Lansing, Michigan 48823

Dear Mr. Williams:

Thank you for commenting on our proposed permit limitations for the Revere Copper and Brass, Inc. discharge via your letter of December 4, 1980.

As per Mr. Chang Bek's letter of December 4, 1980 I recommended changing the copper limit in the subject permit from 0.40 mg/l to 0.03 mg/l. The method for calculating this limit is outlined in the following steps:

1. The toxicants present in the effluent requiring limits are determined through review of wastewater survey reports, critical materials reports, the permit application and information provided by district staff.

2. The long-term safe concentration for each heavy metal is estimated through the use of a regression equation which regresses chronic toxicity on hardness. Then the allowable effluent level is designed by utilizing the amount of dilution available in the mixing zone of the receiving water so that the long-term safe concentration is met at the edge of the mixing zone.

3. The acute toxicity of each heavy metal toxicant is also estimated through the use of a regression equation which regresses acute toxicity on hardness. Then the acute toxicity limit is adjusted for additivity by dividing the acute limit by the number of toxicants. (The amount of toxicity contributed by each toxicant to the total toxicity of the effluent is assumed to be additive).

4. The most stringent limitation resulting from comparison of the acute limit and the chronic limit is then recommended as the effluent limit.

5. If our heavy metal effluent limits result entirely from acute toxicity considerations we may adjust the limitations for additivity further by decreasing the level of one metal and correspondingly increasing the level of another metal so that the sum of all the toxicants does not result in acute toxicity in the final effluent. This procedure allows us to adjust our effluent limits to meet the individual needs of various processes and treatment systems throughout the state.

The above procedure was used to design final effluent limits for the Revere Brass and Copper, Inc. discharge to the Detroit River and the 0.5 mg/l zinc limit and the 0.03 mg/l copper limit are a result of this methodology.

Your letter also recommends that sediment analysis be conducted on sediments collected immediately below the discharge. We agree that such information would be valuable however we doubt that depositional areas are present in the Detroit River close enough to the discharge location to be uninfluenced by other industrial and municipal dischargers and therefore doubt that such an effort, would be worthwhile in this case.

If we can provide further information concerning the development of final metal limits in this permit please feel free to contact me.

Sincerely,

WATER QUALITY DIVISION

George Jackson

George Jackson
Biology Section

JG/pls
cc: R. Schrameck
    C. Bek

June 18, 1979

EXHIBIT M-3

Dr. Howard A. Tanner, Director
Michigan Dept. of Natural Resources
Stevens T. Mason Building
Lansing, Michigan 48926

Attention: Karl Zollner, Permit Coordinator

Re: NPDES Permit No. MI0001899
Goodyear Tire and Rubber Company
Jackson, Michigan

Dear Dr. Tanner:

Thank you for your response to our comments on the subject permit. We are pleased to learn that the potential phosphorus problem in this location has been averted. We disagree, however, with your department's position that because the Water Resources Commission has, in the past, granted variances on pH limitations that a variance should be granted in this case.

As we pointed out in our previous comments, we believe that the upper pH limit of 10.5 for the proposed permit is not adequate to protect and propagate a balanced population of shellfish, fish, and wildlife, and allow recreational acitvities in and on the water, as directed by P.L. 95-217.

This level of pH has been shown to be directly lethal to many aquatic organisms and, in addition, may increase the toxicity of some substances already present in the Grand River.

According to the information on the proposed permit application, Goodyear Tire and Rubber Company has a maximum discharge of approximately 6 cfs and an average discharge of approximately 3.8 cfs. The Grand River in Jackson is known to have flows as low as 9.2 cfs and flows of about 25 cfs are almost a yearly occurrence. If the low flows of the river coincide with the maximum discharge by the company, the effluent could have a serious detrimental effect on the biota of the river in the outfall vicinity.

We reiterate the fact that the Grand River has been designated by the State of Michigan as a "water quality limited segment" extending from the City of Jackson to the Ingham County Line. According to Michigan Standards, point-source dischargers are subject to stricter discharge requirements in a water quality limited segment than on other water designations. In addition to the Michigan Water Quality Standards and Designations, P.L. 95-217 (Clean Water Act) Section 302 (a) states that if best practicable control technology currently available is not adequate to attain the fishable and swimmable goals, effluent limitations (including alternative effluent control strategies) shall be established to attain the goal of the Act.

The U.S. Fish and Wildlife Service believes that granting a variance in this case would not be consistent with the intent of the Clean Water Act. Therefore, we recommend that the upper pH limitation be lowered to 9.0.

We would appreciate a response to our concerns before the issuance of any NPDES permit.

Sincerely yours,

/s/ Area Manager

Area Manager

cc: U.S. EPA, Chicago

bcc: RO, Twin Cities, Mn (LWR)

TJMiller:te

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

June 7, 1979

EXHIBIT M-4

U.S. Department of The Interior
Fish & Wildlife Service
Manly Miles Building
Room 202
1450 South Harrison Road
East Lansing, MI 48823

Attention: Mr. John Popowski

Re: Goodyear Tire & Rubber Company

Dear Mr. Popowski:

Thank you for your comments regarding the proposed permit that was Public Noticed on May 11, 1979.

Subsequent to the public noticing of the above permit, Mr. Riedel, Manager of Engineering Division, Goodyear Tire & Rubber Company informed this office that the boiler blowdown which contains phosphorus has been diverted from Outfall 001 to the City of Jackson sanitary sewer system. Therefore, we do not forsee any phosphorus problem in the river at this location.

In regard to the pH limitation of 6.5-10.5, the Water Resources Commission has, in the past, granted variance on pH limitation where the municipal water used in the non-contact water cooling system comes to the plant at an elevated pH range and where no water treatment additives are used in the cooling system. Accordingly, we are retaining the pH limitation of 6.5-10.5.

We thank you again for your comments.

Very truly yours,

WATER QUALITY DIVISION

Chang M Bek

Chang M. Bek
Engineering & Technical Services
Section

CB/ej
cc: H. Clemens
J. Cosens
R. Riedel
K. Zollner

MICHIGAN
R1026 10/76

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

July 6, 1979

EXHIBIT M-4

Rec'd 7-11-79

U.S. Department of the Interior
Fish and Wildlife Service
East Lansing Area Office
Manley Miles Building, Rm. 202
1405 S. Harrison Rd.
East Lansing, MI 48823

Attn: Mr. John Popowski, Area Manager

RE: Goodyear Tire & Rubber Co.

Dear Mr. Popowski:

This is in reference to your letter of June 18, 1979 to Dr. Tanner regarding the pH limit in the proposed permit that was public notice on May 11, 1979.

As a result of our discussion with USEPA Region V staff, we are revising the pH limits as follows:

1. On pages 2 and 3 of 7, change the pH limitations to read: the pH shall not be less than 6.5, nor greater than 9.5 or the pH of the intake water, whichever is greater.

2. Add intake monitoring for pH by grab sample and notate whenever the effluent pH exceeds 9.5

We are proceeding with the issuance of this permit with the above changes.

We thank you again for your comments.

Very truly yours,
WATER QUALITY DIVISION

Thomas E Kruse

FOR Chang M. Bek
Engineering & Technical Services

CMB:ma

cc: Goodyear Tire & Rubber Co.
J. Cosens
K. Zollner

MICHIGAN

R1026 10/76

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
EAST LANSING FIELD OFFICE (ES)
Room 301, Manly Miles Building
1405 S. Harrison Road
East Lansing, Michigan 48823

October 6, 1978

Dr. Howard A. Tanner
Michigan Department of Natural Resources
Stevens T. Mason Building
Lansing, Michigan 48926

EXHIBIT M-5

Dear Dr. Tanner:

The Fish and Wildlife Service has reviewed the following notice(s) of application for NPDES permit(s):

RE: Applicant	Permit No.	Notice Date
Mead Paper Company Escanaba Mill	MI 0000027	Sept. 15, 1978

The data accompanying the public notice(s) were found to be insufficient to fully evaluate project effects on fish and wildlife resources. The Fish and Wildlife Service urges that action on the permit(s) be held in abeyance until we have had the opportunity to provide you our comments based on adequate project information.

An explanation of the deficiencies follows:

No "Fact Sheet" specifying the discharge volumes from each effected outfall was included with the public notice.

In addition, it is not clear if the mixing zone is the same for each outfall or if the mixing zone is different for each.

A small map of the discharge locations with respect to dam No. 1 would be helpful in delineating the affected area of the Escanaba River.

It is requested that the indicated data deficiencies be provided this office for use in evaluating the proposal(s) in accordance with provisions of the Fish and Wildlife Coordination Act. We will expedite our final comments upon reception of the requested information.

By copy of this letter we are so advising the following agencies:

x U.S. EPA, Chicago, IL
x Regional Office, Twin Cities, MN (ES)

Sincerely yours,

/s/ Clyde R. Odin

Clyde R. Odin
Supervisor

STATE OF MICHIGAN
WILLIAM G. MILLIKEN, Governor
DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

September 15, 1982

U.S. Fish and Wildlife Service
Bureau of Sport Fisheries
301 Manly Miles Building
East Lansing, Michigan 48823

EXHIBIT M-6

Attention: Steve Oddan

Dear Sir:

This is in response to my recent letter and your discussion with Galen Kilmer of my staff concerning your review of the Public Notice of NPDES permits.

The tentative agreement is that we will forward Public Notices and Fact Sheets of permits in the following categories which have a process waste water discharge:

Chemical Companies (Organic and Inorganic)
Coal Mining
Electroplating and Anodizing
Pulp Mills excluding Paper Conversion Mills
Ore Mining excluding Mineral Mining
Pharmaceutical
Petrochemical and Plastics
Petroleum
Steel Mills and Foundries
Sewage Treatment Facilities with Significant Industrial Inputs
Any facility with a discharge to a "Wetland."

If, in the future, you have a desire to receive public notices and fact sheets for any other categories, please contact this agency so we can be assured of properly interpreting your request.

Concerning those public notices and fact sheets which we forward, if we do not receive any comment from you within 30 days of the public notice date, we will assume you have no comments and will proceed with issuance of the permit as drafted. For any permit for which you have no comments, we will not require a confirmation that you have reviewed the same. Any comments you have on a particular permit will be considered in accordance with CFR 40 Part 124.59 published Monday, May 19, 1980.

At the present time, we are forwarding copies of public notices to the Regional Director of Sport Fisheries in Twin Cities, Minnesota, in accordance with an ancient agreement. Since we never receive any comments from that agency, is it possible to delete them from our public notice list and not provide this duplicate service? If not, is there a possibility of prescreening or only forwarding copies of issued permits?

If you have any comments or suggestions, please feel free to contact Galen Kilmer of my staff at (517) 373-8088.

Very truly yours,

WATER QUALITY DIVISION

s/s Karl Zollner, Jr.

Karl Zollner, Jr., P.E.
Chief, Permits Section

KZ:pd

September 29, 1982

Karl Zollner, Jr., P.E.
Chief, Permits Section
Michigan Department of Natural Resources
Water Quality Division
Stevens T. Mason Building
Box 30028
Lansing, Michigan 48909

EXHIBIT M-7

Dear Mr. Zollner:

This letter will confirm our tentative agreements concerning our review of NPDES Public Notices, as referenced in your letter of September 15, 1982. Please note that we have made two changes regarding paper mills and mining. We would like to receive Public Notices and Fact Sheets for the following categories:

Chemical Companies (Organic and Inorganic)
Coal Mining
Electroplating and Anodizing
Pulp Mills and Paper Mills
Ore Mining to include Copper and Iron Mining
Pharmaceutical
Petrochemical and Plastics
Petroleum
Steel Mills and Foundries
Sewage Treatment Facilities with significant Industrial Inputs
Any facility with a discharge to a wetland.

We will contact your agency if we wish to receive additional categories at some future date.

We agree with your proposed procedure of issuance of a permit as drafted if you have not received comments from us within 30 days of the Public Notice. In addition, we have been in contact with our Regional Office in Twin Cities, Minnesota, and they have assured us that you may delete them from your Public Notice mailing list.

We hope this will expedite paper work for all concerned. If you have any questions or comments, please contact Steve Oddan of my staff at (517) 337-6648.

Sincerely yours,

/s/ Margaret T. Kolar

Margaret T. Kolar
Acting Supervisor

cc: Regional Director, Twin Cities, MN (AH)

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ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

April 29, 1976

EXHIBIT M-8

Mr. William G. Turney, Chief
Bureau of Water Management
Michigan Water Resources Commission
Stevens T. Mason Building
Lansing, Michigan 48926

Dear Mr. Turney:

In a recent decision (March 12, 1976) the Second Circuit of the Court of Appeals reviewed the relationship of the Fish and Wildlife Coordination Act to the NPDES permit program. A copy of this opinion is attached. In its opinion the court held that the Fish and Wildlife Coordination Act requires consultation not only on permits associated with traditional water resource modification activities, but on all NPDES permits as well.

It continues to be the policy of this Region to provide all NPDES public notices and other such information to the Fish and Wildlife Service and to work with them in the issuance of permits. The need for continued coordination has been previously discussed with you and with your staff. This was, in particular, pointed out in a letter sent to you by this office on August 6, 1975. Since that time there has been increased close cooperation between your agency and our agency with the Fish and Wildlife Service. This cooperation needs to continue, not just because the court has so ordered, but because of both of our concerns in issuing NPDES permits which at a minimum will adequately protect this areas' waters.

Very truly yours,

/s/ A.H. Manzardo

A.H. Manzardo
Chief, Permit Branch

Attachments
As Stated

cc: Mr. James Truchan, MWRC
Charles A. Hughlett, SF&W

SOUTH CAROLINA CASE STUDY

This case (Union Camp Corporation) is informative because it concerns a major new pulp mill that will discharge its effluent into the Wateree River near Eastover, S.C., thereby affecting fish and wildlife resources of the river, and the Santee-Cooper lakes. The pollution, if not carefully restricted, will also impinge on Santee National Wildlife Refuge. This case study begins about midway in the permit decision process. Note the interaction among the several state and federal agencies, and the permittee, and the application of the Fish and Wildlife Coordination Act, reference to NEPA, the Section 10/404 permit, and the NPDES permit.

Exhibit SC-1. Joint Public Notice issued by Corps of Engineers and the State of South Carolina about July 30, 1981, announcing an application by Union Camp, Inc. for a Section 10/404 permit to construct the water intake and effluent discharge structures in the Wateree River.

Only the cover page of the Corps/DHEC notice is reproduced here. In the body of the notice, specifics about the material to be dredged and the effluent characteristics and quantities to be discharged by the applicant are included, even though the latter is the subject of a separate NPDES permit application. The Corps decided that, based on the environmental report submitted by the applicant, an EIS would not be required. Also, in the Public Notice the Corps asked for any Service information about endangered species that might be affected; the notice also requests State certification that the project will comply with applicable effluent limitations and water quality standards.

Note: For additional information contact:

U.S.F.W.S.
Mr. Roger Banks, (ES) Supervisor
Charleston, S.C.
FTS: 677-4707

Exhibit SC-2. Letter dated April 12, 1982, from Stieglitz (Atlanta Regional Office, FWS) to Stalmann (COE) responding to the Public Notice about the application by Union Camp, Inc. for a Section 10/404 permit.

Note the reference to the Coordination Act, the cross reference to the State of South Carolina NPDES permit application, the statement of a conditioned no objection, and the concern about chronic exposures of low levels of pollutants, and increased nutrient loadings in the receiving waters.

Exhibit SC-3. This letter from Hoogland (NMFS) to Stalmann (COE) dated April 7, 1982, in response to the Section 10/404 permit notice expresses concern about the nutrient loadings and effluent effects on anadromous fish.

In this example there is evidence that EPA has been involved in the coordination of the permit reviews.

Exhibit SC-4. A "revised draft" NPDES permit was issued for the Union Camp, Inc. facility, February 17, 1982, by South Carolina Department of Health and Environmental Control (DHEC). By this time many meetings and much correspondence had passed between the Fish and Wildlife Service and the other interested parties. The revised draft reflected, in part, the Service's concerns about the proposed facility. It is reproduced in its entirety here for the examples of effluent limitations and monitoring requirements that are conditions of the permit, some of which were instigated by the Service.

Exhibit SC-5. Letter from Huber (FWS) to Gross (SCDHEC) dated March 12, 1982, responds to the final NPDES permit for the Union Camp, Inc. discharge into the Wateree River.

Note here that the Service offers extensive comment on the draft final permit insisting on biological surveys (both pre- and post-operational) and biomonitoring, and offers to provide technical assistance with the development of biological studies plans and the evaluation of study results.

Note also the insistence on better control of excessive nutrient loads into Lake Marion. Note the evidence of Service interaction with South Carolina Wildlife and Marine Resources Commission, and the information copy to Union Camp, Inc., the permittee.

Exhibit SC-6. A Public Notice dated March 1, 1982, was issued by the State of South Carolina advising of the "final" NPDES permit determination covering the Union Camp, Inc. discharge on the Wateree River. The salient features of the notice are the additional conditions requiring that biological studies be completed by the permittee and certain phases of the proposed discharge system will only be allowed if the studies show no adverse effects. Also, the permittee is required to conduct striped bass egg and larval studies prior to commencement of the discharge.

Exhibit SC-7. This letter dated February 22, 1982, from Edens of South Carolina Wildlife and Marine Resources Commission (SCWMRC) to several agencies is a response by the State wildlife agency to both the Section 10/404 permit and the NPDES permit.

Note the specific biomonitoring urged as a condition of approval (no objection) of the permits, the requirement for toxicity testing of the effluent, and the idea of a mechanism for reopening the permit when new data on toxicity becomes available.

Exhibit SC-8. Letter dated September 4, 1981, from Hagan (EPA) to Hickling (FWS) advising that the National Environmental Policy Act is not applicable since South Carolina is operating EPA approved NPDES program.

JOINT
PUBLIC NOTICE

DEPARTMENT OF THE ARMY
Charleston District, Corps of Engineers
P.O. Box 919
Charleston, South Carolilna 29302
and
THE STATE OF SOUTH CAROLINA

EXHIBIT SC-1

SACCO-P
Refer to: P/N 81-5C-208

Pursuant to Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344), an application has been made to the Department of the Army by

UNION CAMP CORPORATION
HIGHWAY 58
FRANKLIN, VIRGINIA 23851

for a permit to install water intake and wastewater discharge structures in the

WATEREE RIVER

approximately three (3) miles east of the City of Eastover, in Richland County, South Carolina.

In order to give all interested parties an opportunity to express their views

NOTICE

is hereby given that written statements regarding the proposed work will be received at this office; the South Carolina Water Resources Commission, P.O. Box 4515, Columbia, South Carolina 29204; the South Carolina Department of Health and Environmental Control, Office of Environmental Quality Control, Environmental Analysis Division, 2600 Bull Street, Columbia, South Carolina 29201; until

12 O'CLOCK NOON, WEDNESDAY, 26 AUGUST 1981

from those interested in the activity and whose interests may be affected by the proposed work.

The plans, submitted by the applicant, printed on the reverse of this notice, show the proposed work to consist of constructing water intake and treated wastewater discharge structures in the Wateree River to serve a proposed paper products plant to be constructed in three (3) phases.

Construction of the intake structure will consist of dredging trenches, installing two (2) 36" diameter steel pipes and backfilling the trenches with non-waste bearing fill material obtained from an upland borrow area on the applicant's property. The intake pipes will extend a maximum of 60' into the river and the outer end will be supported by concrete piles. Stone rip-rap will be placed on the bank and under the pipe to prevent erosion around the structure. An average of approximately 36 million gallons of water per day will be withdrawn from the river to be used for process water for plant operation upon completion of phase III of the project.

Construction of the discharge structure will also consist of dredging a 25' wide trench and installing two (2) 30" diameter iron pipes and backfilling the river bank with fill material obtained from an upland borrow area of the applicant's property. The discharge pipes will extend approximately 150' into the river and will be buried approximately 4' below the river bottom. Defuser pipe outlets will project approximatley 2' out of the river bottom. Stone rip-rap will be placed around the defuser outlets and on the bank to prevent erosion.

April 12, 1982

Lieutenant Colonel Bernard E. Stalmann
Commander and District Engineer
U.S. Army Engineer District, Charleston
Post Office Box 919
Charleston, South Carolina 29402

EXHIBIT SC-2

Dear Colonel Stalmann:

We are writing in response to Public Notice 81-5C-208 which announced the Union Camp Corporation's application for a permit to install water intake and wastewater discharge structures in the Wateree River, approximately 3 miles east of the city of Eastover in Richland County, South Carolina. The structures will serve a proposed bleached kraft pulp and paper mill that are to be constructed in three phases. The following comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

By letter dated August 17, 1981, to you relative to the proposed project, we indicated that issuance of the permit would allow discharge of 36 million gallons per day of wastewater containing nutrients, color, oil, heavy metals, and other pollutants that could have a significiant adverse environmental impact on the Wateree River, the Santee-Cooper lakes, and associated fish and wildlife resources. Further, we outlined potential impacts that could be a consequence of the proposed effluent discharge. It was our position that these issues be addressed during the process of permit review and that assurances should be provided that the proposed project would not create unacceptable environmental impacts. It is our belief that the aquatic resources of the Wateree River and the Santee-Cooper Lake System is of such importance and value that every effort must be taken to provide for their protection and conservation.

A joint public hearing on this permit application was held on October 20, 1981, by the Corps, the South Carolina Department of Health and Environmental Control (SCDHEC), and the South Carolina Water Resource Commisssion to receive comments on the proposed project. In our public hearing statement, we expressed our concerns about the potential adverse impacts that could result from this project and identified data that were necessary if we were to fully evaluate the proposed facility's effects on the fish and wildlife resources in concern. We have followed a similar path in our review of a response to the NPDES permit application (SC 003821) that has been processed by SCDHEC concurrent with this permit application.

The Service is concerned that the proposed facility be constructed and operated in a manner that minimized environmental damages or degradation that could occur in the absence of adequate safeguards. We believe that the facility can be constructed and operated in such a manner. From review of the draft Environmental Assessment, the draft NPDES permit application and associated information, and from a review of pertinent literature, the Service identified the specific concerns that we have about the potential adverse environmental impacts that could occur. Particular among these concerns is the chronic exposure of aquatic organisms to low concentrations of effluent constituents and the increased nutrient loading in the receiving waters. These concerns have been relayed to you and to the SCDHEC through various meetings and communications.

In our letter dated to the SCDHEC on the NPDES permit application, we made specific recommendations for items to be included in the permit which we believed were necessary to provide adequate environmental safeguards. In addition, certain specific safeguards that were not addressed in the NPDES permit should be incorporated into the Department of the Army permit. Accordingly, we do not object to the issuance of the permit provided the following conditions are incorporated:

1. Construction activities shall not be conducted in or adjacent to the Wateree River which would result in increased erosion or introduction of sediments into the river during the spring spawning season, March through May.

2. Best available technology shall be used during construction to minimize erosion and sedimentations.

3. All disturbed land surfaces shall be permanently stabilized with a vegetative cover and/or rip-rap.

4. The water intake structure shall be designed so as to limit the intake velocity to less than 0.5 feet per second and shall be appropriately screened to minimize entrainment and impingement of aquatic organisms.

5. The water intake structure shall be placed approximately 5 feet above the river bottom.

We appreciate the opportunity to comment on this permit application.

Sincerely yours,

/s/ Walter O. Stieglitz

Acting Regional Director

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Region
9450 Koger Boulevard
St. Petersburg, FL 33702

April 7, 1982 F/SER61/RSS
893-3503

Lieutenant Colonel Bernard E. Stalmann
District Engineer, Charleston District
Department of the Army, Corps of Engineers
P.O. Box 919
Charleston, SC 29402

EXHIBIT SC-3

Dear Colonel Stalmann:

Please reference Public Notice 81-5C-208 dated July 27, 1981, whereby Union Camp Corporation applied for a permit to install water intake and wastewater discharge structures in the Wateree River near Eastover in Richland County, South Carolina. The structure would facilitate operation of a bleached kraft pulp and paper mill.

By letters dated dated August 11 and November 8, 1981, we expressed our concerns regarding the projects potential adverse impact on anadromous fishery resources and identified issues which we believed should be addressed in an Environmental Impact Statement (EIS). Additional information provided by Union Camp in a letter dated February 5, 1982 in conjunction with meetings on February 4 and March 9, 1982, resolved some, but not all of our concerns with the proposed project.

Our review of the preliminary draft Environmental Assessment (EA) prepared by the Charleston District, Corps of Engineers (COE) indicates that it does not adequately address issues regarding bleached kraft mill effluent (BKME) toxicity to anadromous fish and nutrient loading in the Santee-Cooper Lake. By letter dated March 12, 1982, we advised the S.C. Department of Health and Environmental Control (SCDHEC) of our concerns with regard to issuance of the National Pollutant Discharge Elimination System (NPDES) permit and requested that we be involved in the planning of studies and monitoring efforts.

Our objective throughout the coordination process has been to minimize the project's adverse impacts to anadromous fishery resources. Based on available data and coordination with the COE, FWS, Environmental Protection

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Agency (EPA), SCDHEC, S.C. Department of Wildlife and Marine Resources (SCDWMR) and Union Camp Corporation, we have determined that the proposed facility can be constructed and operated to meet these objectives if conditions of the NPDES are adhered to. Therefore, we recommend that the NPDES conditions also be incorporated into the Corps permit. This would insure that NMFS is afforded the opportunity to be involved in the planning phases of the baseline studies and monitoring and that our concerns with anadromous fish would be addressed.

Thank you for the opportunity to provide these comments. If we can be of further assistance in this matter, please advise.

Sincerely yours,

Richard J. Hoogland
Chief, Environmental Assessment
Branch

cc:
Reg. Dir., FWS, ATLA
Fld Supv., FWS, DES, Charleston
E.T. Heinen, EPA, ATLA
SC Coastal Council
SC Wildlife Mar. Res.
SC DHEC
F/HP-J. Chambers
F/SER611

South Carolina
Department of
Health and
Environmental
Control

FEB 24 1982
U.S. Fish & Wildlife
Service
Charleston, S.C.

BOARD
William M. Wilson, Chairman
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COMMISSIONER
Robert S. Jackson, M.D.
2600 Bull Street
Columbia, S.C. 29201

PERMIT NO. SC0038121

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

EXHIBIT SC-4

In compliance with the provisions of the Pollution Control Act of South Carolina (S.C. Sections 48-1-10 *et seq.*, 1976) and with the provisions of the Federal Clean Water Act (PL 92-500, as amended by PL 95-217, Titles III, IV and V) 33 U.S.C. 1251 *et seq.*, the "Act,"

Union Camp Corporation

REVISED DRAFT
2-17-82

is authorized to discharge from a facility located at

Route 601
Eastover, Richland County, South Carolina

to receiving waters named

Wateree River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

signed:

Bureau of Wastewater and Stream
Quality Control

REVISED DRAFT
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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through the date of Phase II operation (See Part III), the permittee is authorized to discharge from outfall(s) serial number(s) 001: treated process wastewater, treated sanitary wastewater, and stormwater runoff from Phase I operation, discharged through diffuser pipes.

Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (CFS)	---	---	---	---	Daily	Continuous Flow Recorder
BOD_5	2143 (4725)	3552 (7830)	---	---	Daily	24-hr. Comp.
TSS	3123 (6885)	5144 (11340)	---	---	Daily	24-hr. Comp.
Total Nitrogen	1165 lbs/day (annual average)		---	---	1/week	24-hr. Comp.
Total Phosphorus	220 lbs/day (annual average)		---	---	1/week	24-hr. Comp.
Fecal Coliform	---	---	---	---	1/week	Grab
Color*	---	---	---	---	Daily	Grab

The pH shall not be less than 5.0 standard units nor greater than 9.0 standard units and shall be monitored daily by continuous recorder.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At or near the outfall, but prior to mixing with receiving stream. Nutrients shall also be sampled at the river intake to calculate on a net basis; this shall be a grab sample taken once per week.

* See limitation under Part III.

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with Phase II operation and lasting through the date of Phase III operation, the permittee is authorized to discharge from outfall(s) serial number(s) 001: treated process wastewater, treated sanitary wastewater, and stormwater runoff from Phase II operation, discharged through diffuser pipes.

Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (CFS)	---	---	---	---	Daily	Continuous Flow Recorder
BOD$_5$*	4525 (9975)	7498 (16530)	---	---	Daily	24-hr. Comp.
TSS	6593 (14535)	10859 (23940)	---	---	Daily	24-hr. Comp.
Total Nitrogen	2330 lbs/day (annual average)		---	---	1/week	24-hr. Comp.
Total Phosphorus	440 lbs/day (annual average)		---	---	1/week	24-hr. Comp.
Fecal Coliform	---	---	---	---	1/week	Grab
Color*	---	---	---	---	Daily	Grab

* See additional limitations under Part III.

The pH shall not be less than 5.0 standard units nor greater than 9.0 standard units and shall be monitored daily by continuous recorder.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At or near the outfall, but prior to mixing with receiving stream. Nutrients shall also be sampled at the river intake to calculate on a net basis; this shall be a grab sample taken once per week.

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with Phase III operation and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 001: treated process wastewater, treated sanitary wastewater, and stormwater runoff from Phase III operation discharged through diffuser pipes.

Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations kg/day (lbs/day)		Other Units (Specify)		Monitoring Requirements	
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (CFS)	---	---	---	---	Daily	Continuous Flow Recorder
BOD_5*	7144 (15750)	11839 (26100)	---	---	Daily	24-hr. Comp.
TSS	10410 (22950)	17146 (37800)	---	---	Daily	24-hr. Comp.
Total Nitrogen	3495 lbs/day (annual average)		---	---	1/week	24-hr. Comp.
Total Phosphorus	660 lbs/day (annual average)		---	---	1/week	24-hr. Comp.
Fecal Coliform	---	---	---	---	1/week	Grab
Color *	---	---	---	---	Daily	Grab

* See additional limitations under Part III.

The pH shall not be less than 5.0 standard units nor greater than 9.0 standard units and shall be monitored daily by continuous recorder.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At or near the outfall but prior to mixing with receiving stream. Nutrients shall also be sampled at the river intake to calculate on a net basis; this shall be a grab sample taken once per week.

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 001A: treated sanitary effluent from all phases of operation.

Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow-m^3/day (MGD)	---	---	---	---	Daily	Continuous Recorder
BOD_5	---	---	---	60 mg/l	Daily	Grab
TSS	---	---	---	60 mg/l	Daily	Grab
Fecal Coliform	---	---	200/100 ml	400/100 ml	5/week	Grab

The sanitary wastewater shall, after separate treatment, be discharged into the process wastewater treatment system.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): After treatment in sanitary wastewater treatment system and before the discharge enters the process wastewater treatment system.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

N/A

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, the expected date for achieving the scheduled action, and the probability of meeting the next scheduled requirement.

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C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during the previous one (1) month shall be summarized for the month and reported on a Discharge Monitoring Report Form, postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on the 28th day of the first month following commencement of discharge. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the State at the following address:

South Carolina Department of
Health and Environmental Control
Attn: NPDES Administration Section
2600 Bull Street
Columbia, South Carolina 29201

3. Definitions

a. The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commerical facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

b. The "daily maximum" discharge means the total discharge by weight during any calendar day.

c. The "annual average" discharge means the total discharge by weight during a calendar year divided by the number of days in the year that the production or commerical facility was operating. Where less than daily sampling is required by this permit, the annual average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar year when the measurements were made.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.

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5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date and time of sampling;

b. the dates the analyses were performed;

c. the person(s) who performed the analyses;

d. the analytical techniques or methods used; and

e. the results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the approved Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analysis performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Department of Health and Environmental Control.

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PART II

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A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Non-Compliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitations specified in this permit, the permittee shall provide the Department of Health and Environmental Control with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of non-compliance; and

b. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from non-compliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypassing

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Department of Health and Environmental Control in writing of each such diversion or bypass.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters without passing through the treatment system.

7. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

b. Halt, reduce, or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

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B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Commissioner of the Department of Health and Environmental Control, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the

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succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department of Health and Environmental Control.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Department of Health and Environmental Control and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in the Pollution Control Act.

4. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitations for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

5. Civil and Criminal Liability

Except as provided in permit conditions of "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

8. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

9. Severability

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

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PART III

A. OTHER REQUIREMENTS

1. This permit shall be modified, or revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301 (b)(2)(C), and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

   (a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or,

   (b) Controls any pollutant not limited in the permit.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

2. This permit is written in conformance with the New Source Performance Standards which were proposed by EPA on January 6, 1981, relevent to the BCT Subcategory of the Pulp and Paper Industry point source category, 40 CFR Part 430, on the basis of 675 tons/day of product for Phase I, 1425 tons/day of product for Phase II, and 2250 tons/day of product for Phase III.

3. This is a controlled release type permit. The release of effluent for Phases II and III at river flows above 800 cfs shall be governed by the following equations as determined by the Department of Health and Environmental Control.

   $y = 2.75(x) + 3303$ with upstream dissolved oxygen of 5.2 mg/l

   $y = 5.76(x) + 3903$ with upstream dissolved oxygen of 5.9 mg/l

   $y = 15.61(x) + 4954$ with upstream dissolved oxygen of 7.1 mg/l

   $y = 19.73(x) + 6605$ with upstream dissolved oxygen of 8.0 mg/l

   where y = BOD_5 loading in lbs/day

   x = River flow minus 800 cfs

   The above equations will apply only until a verified and calibrated mathematical model is developed by the permittee using data generated by actual discharges. The model must be approved by DHEC before being implemented. Discharges at river flows below 800 cfs must be verified by river monitoring to show that the dissolved oxygen standard of 5.0 ppm is not violated. This requirement applies as above until the permittee has an approved verified and calibrated model.

4. The permittee shall cease discharge when the dissolved oxygen in the waters passing the plant is below 5.0 mg/l.

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5. There shall be no pentachlorophenols or trichlorophenols used in any cooling water.

6. All bleach plant wastes shall be directed to the biological treatment system.

7. No later than six months after permit issuance, the permittee shall submit to DHEC for written approval, a plan for biological monitoring and a plan for special studies. The biological monitoring plan shall include at a minumum the following:

   (1) A biological assessment prior to start up which will develop baseline data.

   (2) A biological assessment after the first discharge occurs from Phase I which analyzes the difference and significance of (1) above with this assessment. This work must be completed no later than eighteen months after start up.

   (3) An assessment made after the first discharge from Phase II with requirements as in (2) above.

   (4) An assessment made after the first discharge from Phase III with requirements as in (2) above.

   (5) In addition to the above assessments, special studies must be completed no later than eighteen months after start-up which provide the below information.

      (a) Toxicity testing on actual effluent from the permitted plant.

      (b) Fish avoidance testing on actual effluent from the permitted plant.

      (c) Fish tainting testing on actual effluent from the permitted plant.

   Plans for this work must have DHEC approval prior to work execution. Following approval, the plans for biological monitoring and special studies shall become conditions of this permit.

8. Permittee shall conduct striped bass egg larval studies using an effluent approved by DHEC prior to commencement of discharge.

9. This NPDES permit is written for all three phases with different conditions and limitations for each phase. Limitations for Phase II shall be in effect no sooner than thirty (30) days after the following conditions have been met:

   (1) Receipt by DHEC of certification that the production capacity of the manufacturing plant has reached 1425 tons/day;

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(2) The Company has received a written determination by DHEC that the wastewater treatment facility is capable and properly permitted to treat the volume of waste associated with 1425 tons/day of product;

(3) Biological studies conducted during Phase I operation have been completed, and have shown that there are no significant adverse effects on the aquatic biota; or alternatively, measures have been taken to correct any significant adverse effects to the biota; and,

(4) The Company has received written notification from DHEC that the limitations for Phase II are in effect.

10. Limitations for Phase III shall be in effect no sooner than thirty (30) days after the following conditions have been met:

(1) Receipt by DHEC of certification that the production capacity of the manufacturing plant has reached 2250 tons/day;

(2) The Company has received a determination by DHEC that the wastewater treatment facility is capable and properly permitted to treat the volume of waste associated with 2250 tons/day of product;

(3) Biological studies conducted during Phase I and II operation have been completed, and have shown that there are no significant adverse effects; or alternatively, measures have been taken to correct any significant adverse effects to the biota; and,

(4) The Company has received written notification from DHEC that the limitations for Phase III are in effect.

11. The Company shall regulate its treated effluent discharge to prevent a color change of not more than forty (40) color units after mixing in the Wateree River. True color shall be measured daily in accordance with methodology outlined in Standard Methods.

12. The Company shall maintain at all times sufficient dissolved oxygen in the effluent so that the effluent does not become anaerobic or septic.

13. Within twelve months after the discharge commences, the permittee shall submit to DHEC the results of effluent testing for the complete list of EPA priority pollutants which includes toxic, carcinogenic, mutagenic, and teratogenic compounds.

14. During Phase I only and until the expiration date of this Permit only, the Permittee shall regulate the discharge so that the volume of the effluent does not exceed 3% of the volume in the Wateree River at any time.

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15. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

    a. Violation of any terms or conditions of this permit;

    b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

    c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

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[illegible]

March 12, 1984

Mr. Robert G. Gross, P.E.
Director
Industrial and Agricultural
  Wastewater Division
Bureau of Wastewater and
  Stream Quality Control
South Carolina Department of
  Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

EXHIBIT SC-5

Dear Mr. Gross:

We have reviewed the final NPDES permit (SC 0038121) for the proposed Union Camp Corporation (UCC) pulp and paper mill near Eastover, South Carolina. The following comments are offered subsequent to this review and our meeting on March 9, 1982, with UCC officials.

As has been previously discussed, the Fish and Wildlife Service (Service) is concerned about the Eastover plant's discharge of pollutants and nutrients into a valuable and environmentally sensitivie ecosystem. The changes made in the final NPDES permit substantially improve the quality of the permitted discharge over that which would have been allowed under the draft permit. The final permit contains conditions which will allow phases II and III to go into effect only if biological studies required by your agency have been completed and show no significant adverse effects. The changes allay many concerns expressed earlier; however, some of our concerns are yet to be specifically addressed. We have pointed out that certain necessary information regarding fish and wildlife resources and potential project impacts is currently unavailable and in this light we believe the NPDES permit must address more specifically certain issues. This will help assure that the project will not result in significant adverse environmental effects. To this end, we recommend that the following changes be made:

1. Page 14, No. 8: To meet earlier recommendations and to be in compliance with conditions specified by the South Carolina Wildlife and Marine Resources Department

(SCWMRD) for permit issuance, this condition should be as follows:

8. Permittee shall determine the acute and chronic toxicity of an appropriate effluent to the early life stages of striped bass and a suitable larval striped bass food organism. Tests must use a mill effluent similar to the proposed UCC discharge. These tests must be initiated with the spring, 1982, striped bass spawning season.

2. Page 15, No. 14: "During Phase I only and until the expiration date of this Permit only" should be omitted from this condition. Throughout this permit, effluent limitations and conditions necessary to project aquatic resources are specified for all phases of operation. Since currently available data indicated that the chronic toxicity of concentrations greater than 3 percent to fish may be unacceptably high, we recommend tha the 3 percent restriction apply until data are available to substantiate that higher concentrations will not produce such effects. Further, we recommend that toxicity testing include appropriate studies to make this determination. The Service is prepared to provide expertise to assist in the design and the evaluation of the results from such studies. Based on the results of such studies, revisions in the permit can be made to reflect the needs for the protection of the fishery resources in the Wateree/Santee system.

   The Service is aware that UCC and SCDHEC presently expect the color limitation to restrict the effluent to less than 3 percent of the river flow. But, as UCC officials informed us, advances in color removal technology could allow compliance with the color limitation imposed by the NPDES permit and still allow a discharge that would exceed 3 percent. Therefore, if fishery resource protection and propagation are to be assured, this 3 percent condition must apply until data are available to show that it is too stringent.

   Further, we are aware that Condition #14, as now stated, does not necessarily preclude inclusion of the 3 percent condition in any future permit. However, the condition, as now stated, would automatically expire with the expiration of this permit. Since the SCDHEC has chosen to include effluent limitations for all three proposed phases, we do not see sufficient reason for specifically limiting application of this condition to Phase I only.

3. Page 16, No. 15: One condition under which the SCWMRD removed its objections to issuance of permits to UCC is that the permits contain specific language that would provide a mechanism by which the permits could be modified, revised, or revoked as a result of additional information, such as studies being conducted in Georgia, or toxicity tests using striped bass and other species.

   Condition 15 of the final permit does not include specific language to this effect, although it could be construed or interpreted as meeting the SCWMRD condition. The Service fully supports the SCWMRD condition and recommends that the SCDHEC clarify its intention of complying with this condition by adding the following specific language as a part of Condition 15:

   d. Information obtained from toxicity tests using striped bass early life stages and larval striped bass food organisms, biological monitoring programs, or other data which indicate this facility would have a significant adverse impact on aquatic flora and fauna.

As noted in the March 1 "Notice of NPDES Permit Determination," requirements for biomonitoring of the effluent and for biological surveys (both pre- and post-operational) are included in the final permit. During extensive discussions with you and the UCC during the past months, both we and the SCWMRD have repeatedly stressed the need for our agencies to be involved in the development of study plans and evaluation of study results for those studies deemed essential to assure protection of fishery resources. We understand you have provided this assurance by letter to the SCWMRD. We request receipt of similar written assurances.

Finally, one concern expressed by us and other agencies and individuals related to nutrients is not addressed by the final NPDES permit. Following extensive review and discussion of this issue, the Service remains concerned about the potential consequences of permitting approximately a 15 percent increase (3,495 lb/day M; 660lb/day P) in point source nutrient loading to Lake Marion, which is already being subjected to excessive nutrient loads. In a recent conversation with one of our biologists, you indicated that technology is currently not available to remove the low concentrations of nitrogen and phosphorus that would be in the Proposed UCC discharge. However, in light of the value of the Santee-Cooper resources, we continue to recommend the inclusion of nutrient removal requirements in the NPDES permit.

We appreciate the opportunity to provide you with these comments and request that we be furnished with a copy of the final reports.

Sincerely yours,

/s/ Richard T. Huber

Acting Regional Director

cc: Norman C. Shroyer
Technical Director
Union Camp Corp.
Bleached Paper and Board Division
Franklin, VA 23851

Robert E. Duncan
S.C. Wildlife and Marine
Resources Dept.
P.O. Box 167
Columbia, S.C. 29202

PUBLIC NOTICE

STATE OF SOUTH CAROLINA
DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL
BUREAU OF WASTEWATER & STREAM QUALITY CONTROL
2600 BULL STREET
COLUMBIA, SOUTH CAROLINA 29201
303/758-3877

PUBLIC NOTICE NO.: 82-29-0 DATE: MARCH 1, 1982

NOTICE OF NPDES PERMIT DETERMINATIONS

EXHIBIT SC-6

COMPANY: Union Camp Corporation
LOCATION: Eastover, South Carolina
NPDES PERMIT NO.: SC0038121
PERMIT EFFECTIVE DATE: M[illegible], 1982
PRIOR PUBLIC NOTICE NO.: [illegible]1-5C-208
PRIOR PUBLIC NOTICE DATE: September 18, 1981

After due consideration of the facts applicable to the above-named facility and the requirements and policies expressed in the Federal Clean Water Act, the Pollution Control Act of South Carolina and appropriate regulations, the Department of Health and Environmental Control has determined that the National Pollutant Discharge Elmination System permit should be issued with substantial changes from the tentative determinations announced by the previous public notice of this permit. The changes made in the determinations are described in the last section of this notice. The final permit is available for inspection at the Department office at 2600 Bull Street, Columbia, South Carolina 29201.

The permit will be effective on the date given above provided that no request for an adjudicatory hearing and/or legal decision is granted by the Department. If such a request is granted, all contested provisions of the permit will become effective on the effective date of the permit.

Requests for an adjudicatory hearing must be served on the Board of Health and Environmental Control no later than 5:00 p.m. on March 15, 1982. A designee of the Board or the hearing examiner may grant or deny a request for an adjudicatory hearing on the basis of a consideration of whether the person making the request has standing to seek a determination under the definition of "Contested Case" and other pertinent definitions as contained in Volume 25, Code of Laws of South Carolina 1976, Chapter 61, Rule 61-72 entitled "Procedures for Contested Cases." The request and 2 copies thereof must be submitted to the Department of Health and Environmental Control, Attn: Compliance/Enforcement Division. 2600 Bull Street, Columbia, S.C. 29201. The submission of the request will be within the time period if mailed by certified mail before the fifteenth day. The following elements should, at a minimum, be included within the request.

1. A title indicating the nature of the proceeding and the parties involved;
2. The complete name and address of the party filing the plea and, if applicable, the organization(s) or interests which he represents;
3. If the requesting party is to be represented by counsel, the name and address of the attorney;
4. A clear and concise statement of the requesting party's affected interest;
5. A clear and concise statement of the issues upon which the request is based and where applicable, the contested sections of the permit. (It becomes effective according to its terms on the effective date specified in the permit.)
6. A statement of the relief sought by the requesting party.

Additional information on adjudicatory hearings and legal decisions may be obtained by contacting the Office of Legal Counsel, Department of Health & Environmental Control, 2600 Bull Street, Columbia, S.C. 29201, telephone 803/758-5658.

DESCRIPTION OF SUBSTANTIAL CHANGES

1. A requirement has been added to the permit to monitor the effluent for fecal coliform bacteria once per week.

2. The final permit now requires that all treated sanitary effluent, after separate treatment, be directed to the process wastewater treatment system. The final permit deletes the daily average limitations for BOD$_5$ and TSS on the treated sanitary waste prior to its mixing with the process wastewater. The daily maximum limitations remain.

3. The poundage limitations on pages two and three have been changed to reflect different production during phase I and II. Poundages in the draft permit were based on 750 tons of product per day for each phase; poundages in the final permit are based on 675 tons per day for phase I, 750 tons per day for phase II, and 825 tons per day for phase III.

	OLD LIMITS		NEW LIMITS	
			PHASE I	
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.
BOD$_5$	2381 kg/day	8700 kg/day	2143 kg/day	3552 kg/day
TSS	3470 kg/day	5715 kg/day	3123 kg/day	5144 kg/day
			PHASE II	
BOD$_5$	4763 kg/day	7893 kg/day	4525 kg/day	7498 kg/day
TSS	6940 kg/day	11431 kg/day	6593 kg/day	10859 kg/day

4. The final permit contains a requirement that the effluent be regulated such that the color of the Wateree River does not change by more than forty (40) color units. To ensure compliance with this requirement, the permittee must measure true color on a daily basis.

5. The draft permit contained a single equation which would additionally limit the discharge as a function of flow in the Wateree River. This equation has been expanded in the final permit to several equations which limit the discharge as a function of flow in the Wateree River, dissolved oxygen in the Wateree River, and dissolved oxygen in the effluent.

Old Equation: $y = 5.5(x) + 404$; where
$y = BOD_5$ loading in lbs/day
$x =$ Wateree River flow in cfs

New Equations:

Background Dissolved Oxygen Level in Wateree River (mg/l)	Equation
5.0	$y = 1.39(x) + 2636$
5.5	$y = 3.96(x) + 948$
6.0	$y = 6.89(x) + 1283$
6.5	$y = 9.2(x) + 2444$
7.0	$y = 12.19(x) - 4675$
7.5	$y = 14.16(x) - 5504$
8.0	$y = 15.95(x) - 6531$

whereas: $y = BOD_5$ loading in lbs/day
$x =$ Wateree River flow in cfs

6. A condition has been added to the final permit which will ensure that the effluent contains sufficient dissolved oxygen to preclude it from becoming septic or anaerobic (odorous).

7. A condition has been added to the final permit which requires the permittee to conduct testing after discharge for the complete list of EPA priority pollutants which includes toxic, carcinogenic, mutagenic, and teratogenic compounds.

8. The draft permit contained a limitation on the amount of groundwater which could be withdrawn and required the permittee to record the amount withdrawn. This section has been deleted in the final permit since the S.C. Water Resources Commission has determined that groundwater use will not pose significant adverse effects.

9. The draft permit contained requirements for biomonitoring of the effluent and for biological surveys to be conducted in the receiving waters. These requirements have been rewritten to be more specific with respect to the biological studies and the fish studies.

10. Additional conditions have been added in the final permit which would allow phases II and III to go into effect only if the biological studies have been completed and have shown that there are no significant adverse effects.

11. A condition has been added to the permit which requires the permittee to conduct striped bass egg larval studies prior to commencement of discharge.

12. A condition has been added to the permit which requires, during phase I, the permittee to regulate the discharge so that the volume of the effluent does not exceed three percent (3%) of the volume in the Wateree River.

South Carolina Wildlife & Marine Resources Commission

POST OFFICE BOX 167 • COLUMBIA, SOUTH CAROLINA 29202 • TELEPHONE 803-758-0038

February 22, 1982

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LTC Bernard E. Stalmann
District Engineer
Corps of Engineers
P. O. Box 919
Charleston, S. C. 29402

EXHIBIT SC-7

Mr. Clair P. Guess, Jr.
Executive Director
S. C. Water Resources Commission
P. O. Box 50506
Columbia, S. C. 29250

RE: Union Camp Corporation - Permit Applications P/N 81-5C-208,
NPDES #SC0038121, et al.
Pursuant to Section 10 of the River and Harbor Act of 1899;
Section R. 19-100, et. seq., 1976 South Carolina Code of
Laws, as amended; Section 165 of the Clean Air Act, as
amended, August 1977; and Sections 401, 402 and 404 of
the Clean Water Act

Gentlemen:

In a previous letter to your agencies, our Department expressed a number of concerns related to these permit applications and listed eight (8) basic requirements that would have to be satisfied before any final action should be taken on the permits. Since that time, we have been in constant contact with your agencies and the applicant in an effort to reconcile our concerns. We want to thank you and the applicant for the extensive cooperation provided to our Department during this process.

At the February 19, 1982 meeting of the South Carolina Wildlife and Marine Resources Commission, these permit applications were considered. The attached report represents our Department's review of the status of our concerns and recommendations, based on all information available to us at this time. Based on this report, the Commission has determined that our concerns have been adequately addressed. Therefore, the South Carolina Wildlife and Marine Resources Commission would have no further objections to your agencies taking final action on the Union Camp permit applications provided that the following conditions are included, to the full extent of your authorities, in any permits issued:

1) That no construction activities be conducted in or adjacent to the Wateree River which would result in any increased erosion or introduction of sediments to the river during the spring spawning season - March through May.

2) That every effort be made to minimize erosion and sedimentation during construction by utilizing the best available technology.

3) That all disturbed land surfaces be permanently stabilized with a vegetative cover and/or rip-rap.

4) That the water intake be designed so as to limit the intake velocity to less than 1/2 ft./sec. and that it be appropriately screened to minimize entrainment of aquatic organisms.

5) That studies be undertaken to fully establish the base-line ecological conditions of the river and lake system prior to the beginning of any discharge, and periodically repeated as necessary to insure that no adverse impacts are being exerted.

6) That a comprehensive monitoring program be developed to detect any potential problem areas. This monitoring program should include, at a minimum, the following items:

    a. Monitoring for acute and chronic toxicity to fish species of special concern and to important food chain organisms.

    b. Monitoring for carcinogenic and mutagenic compounds.

    c. Monitoring for fish avoidance in areas impacted by the effluent.

d. Monitoring for fish flavor tainting.

e. Monitoring for potential impacts of the nutrient discharge on lake eutrophication.

f. Monitoring for any potential impacts on the resource users.

We also request that assurances be provided that any problems detected in the monitoring program be corrected.

7) That the discharge be regulated so as to prevent a color change of more than 40 color units after mixing in the Wateree River.

8) That during Phase I, the discharge will be regulated so that the effluent will not exceed 3% of the volume of the Wateree River at any time.

9) That toxicity tests using a similar mill effluent be conducted this spring on striped bass eggs and larvae, and other possible aquatic organisms of special concern.

10) That the permits contain specific language that would provide a mechanism by which they could be modified, revised or revoked as deemed necessary as a result of any new information obtained - such as the studies being conducted in Georgia, the toxicity tests to be performed, or any other new data that may surface.

The removal of the Commission's objections is conditioned on the inclusion of these recommendations in any permit actions. We would also reserve the right to submit further comments based on any new information or changes in conditions.

Sincerely,

J. Drake Edens, Jr.

J. Drake Edens, Jr.
Chairman

JDEjr/sa

September 4, 1981

REF: 4SA-EIS

Mr. William C. Hickling
Area Manager
U.S. Fish and Wildlife Service
Plateau Building, Room A-5
50 South French Broad Avenue
Asheville, North Carolina 28801

EXHIBIT SC-8

Dear Mr. Hickling:

This is in response to your letter of August 31, 1981, to Regional Administrator Charles Jeter regarding the Union Camp proposed paper mill near Eastover, S.C. In that letter you raised a number of environmental concerns and concluded by requesting that EPA prepare an environmental impact statement (EIS).

At this time the authority to issue NPDES permits for industrial discharges in South Carolina has been delegated to the South Carolina Department of Health and Environmental Control (DHEC). Under that delegation, the NPDES permits issued by DHEC are considered as State actions and not as Federal actions. Absence of a Federal action in this situation precludes the application of National Environmental Policy Act (NEPA) so that EPA has no authority to prepare an EIS.

Under terms of the delegation agreement, EPA does have an overview of permits issued by the State and on complex or controversial projects, we often provide consultation and technical assistance. I am forwarding your letter to Mr. Howard Zeller, Acting Director, Enforcement Division (FTS 257-2211) for follow-up action in that regard.

Sincerely yours,

John E. Hagan III, P.E.
Chief, EIS Branch

cc: Howard Zeller

APPENDIX D

federal register

Friday
April 1, 1983

NOTE: Missing pages refer to non-NPDES Regs.

Part II

Environmental Protection Agency

Environmental Permit Regulations: RCRA Hazardous Waste; SDWA Underground Injection Control; CWA National Pollutant Discharge Elimination System; CWA Section 404 Dredge or Fill Programs; and CAA Prevention of Significant Deterioration; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 122, 123, 124, 125, 144, 145, 146, 233, 260, 261, 262, 263, 264, 265, 270, and 271

[FRL 2293-5]

Environmental Permit Regulations: RCRA Hazardous Waste; SDWA Underground Injection Control; CWA National Pollutant Discharge Elimination System; CWA Section 404 Dredge or Fill Programs; and CAA Prevention of Significant Deterioration

AGENCY: Environmental Protection Agency.

ACTION: Final Rule.

SUMMARY: This rule reorganizes the presentation of permit program requirements governing the Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA), the Underground Injection Control (UIC) program under the Safe Drinking Water Act (SDWA), the National Pollutant Discharge Elimination System (NPDES) and the Dredge or Fill (§ 404) programs under the Clean Water Act (CWA), and the Prevention of Significant Deterioration (PSD) program under the Clean Air Act. This rule makes *no substantive changes* to any of the affected sections. The Agency is simply physically deconsolidating its Consolidated Permit Regulations in response to the President's Task Force on Regulatory Relief which asked that the Environmental Protection Agency review the Consolidated Permit Regulations. Our intent is to make the regulations easier to understand and to use.

- Part 122 of the Consolidated Permit Regulations is split into portions applicable specifically to RCRA (new Part 270), UIC (new Part 144), 404 (new Part 233), and NPDES (mostly remaining in Part 122).
- Part 123 of the Consolidated Permit Regulations is split into portions applicable specifically to RCRA (new Part 271), UIC (new Part 145), 404 (new Part 233), and NPDES (remaining in Part 123).
- Part 124 of the Consolidated Permit Regulations remains applicable to all permit programs (RCRA, State 404 programs, UIC, NPDES, PSD) and is modified only as necessary to revise the cross-references to former Parts 122 and 123.

DATES: Effective date: April 1, 1983, except for those portions of §§ 122.2, 122.21, and 122.29 that are suspended.

Comment date: To assist EPA in correcting typographical errors, incorrect cross-references and similar technical errors, submit comments of a technical and nonsubstantive nature on the final regulations on or before May 31, 1983.

ADDRESS: Address comments of a technical and nonsubstantive nature to: John Chamberlin, PM-220, U.S. Environmental Protection Agency, Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT: The following individuals at the U.S. Environmental Protection Agency, Washington, D.C. 20460:

- On RCRA issues—Deborah Wolpe, Office of Solid Waste (WH-563); (202) 382-4754;
- On UIC issues—Thomas E. Belk; Office of Drinking Water (WH-550); (202) 426-3934;
- On NPDES issues—George Young, Permits Division (EN-336); (202) 426-4793;
- On 404 issues—Michael Privitera, Office of Federal Activities (A-104), (202)382-5053;
- On issues relating to coordination among all the revisions to the Consolidated Permit Regulations for the President's Task Force on Regulatory Relief—John Chamberlin, Office of Policy Analysis (PM-220); (202)382-2762.

SUPPLEMENTARY INFORMATION:

I. Background

On May 19, 1980, EPA promulgated the Consolidated Permit Regulations (CPR) governing five separate permit programs (40 CFR Parts 122-124, 45 FR 33290-33588). The five permit programs covered by the CPR are: the Hazardous Waste Management (HWM) program under Subtitle C of the Resource Conservation and Recovery Act (RCRA); the Underground Injection Control (UIC) program under Part C of the Safe Drinking Water Act; the National Pollutant Discharge Elimination System (NPDES) program under Section 402 of the Clean Water Act; the state "dredge or fill" program under Section 404 of the Clean Water Act; and the Prevention of Significant Deterioration (PSD) program under regulations implementing Section 165 of the Clean Air Act.

Part 122 established definitions and basic permit requirements for EPA-administered RCRA, UIC, and NPDES programs. It also provided certain requirements applicable to state programs, including state 404 programs, but only to the extent Part 123 explicitly referred to Part 122 requirements. Part 122 spelled out in detail who must apply for a permit; contents of the applications; what conditions must be incorporated into permits; when permits may be revised, reissued, or terminated; and other requirements.

Part 123 established the requirements for state programs operated in lieu of EPA, after a program has received the approval of the Administrator. In addition to the RCRA hazardous waste, UIC, and NPDES programs, Part 123 governed state Section 404 programs for discharges of dredged or fill material into certain waters of the United States. After receiving the approval of the Administrator, a state may issue Section 404 permits, in lieu of the United States Army Corps of Engineers, basically in so called "Phase II and III" waters (sometimes referred to as traditionally non-navigable waters). In addition, Part 123 contained the procedures for EPA approval, revision, and withdrawal of a state program.

Part 124 established the common procedures to be followed in making permit decisions under the RCRA hazardous waste, UIC, PSD, and NPDES programs. It included procedures for public participation, for consolidated review and issuance of two or more permits to the same facility or activity, and for appealing permit decisions. Most requirements in Part 124 are only applicable where EPA is the permit-issuing authority. However, Part 123 requires states to comply with some of the Part 124 provisions, such as the basic public participation requirements of permit issuance.

Technical regulations containing requirements and criteria which apply to decisionmaking under the RCRA, UIC, NPDES, 404, and PSD programs were developed separately and do not appear in Parts 122-124. These other regulations set the substantive standards for the contents of permits issued pursuant to Parts 122-124 and provide some of the technical bases for determining the adequacy of state programs and individual permit decisions.

In the CPR, the Agency intended to encourage consolidated permitting in three ways:

(1) It adopted procedures to allow coordinated processing of multiple permits for a single facility. A single short application form was developed to provide basic information needed by all permit programs. Procedures were established to allow joint public notice, hearings, and issuance for multiple permits.

(2) It established uniform procedures and permit requirements across EPA permit programs to provide more consistency and predictability to the regulated community. We hope that an

applicant who had obtained one EPA permit would find it easier to obtain other EPA permits by following similar procedures and meeting similar requirements.

(3) The regulations adopted a consolidated format. They interspersed requirements for one permit program among requirements for other permit programs. The regulations were organized both by topic (e.g. who applies for a permit, or standard permit conditions) and by permit program. For the most part, an effort was made to describe fully the requirements on a topic to the extent that the requirements were common across permit programs, and then subsequently to describe program-specific variations on the topic.

Subsequent to promulgation of the CPR, industry, states, and other interested parties have extensively criticized them. Petitioners representing major industrial trade associations, several of their member companies, the Natural Resources Defense Council, several states, and others filed petitions for judicial review of the regulations. Ultimately all petitions were consolidated in the U.S. Court of Appeals for the District of Columbia (*NRDC* v. *EPA*, No. 80-1607 and consolidated cases, filed June 2, 1980). Amendments resulting from this litigation are discussed in Section II of this preamble.

In addition, many individuals, including some of EPA's own regional officials charged with implementing the CRP, complained that the regulations were excessively complex and difficult to understand and to implement.

Consequently, the President's Task Force on Regulatory Relief designated the CPR as one of seven EPA regulations for Agency Review. Since late 1981 the Agency has been re-assessing these regulations with the following objectives in mind:

- Reduce the burden the regulations impose in terms of monitoring, recordkeeping, testing, reporting, and general paperwork.
- Increase the flexibility with which EPA can transfer permitting responsibilities to the states.
- Provide the Agency and states with more efficient ways of managing permitting workloads.
- Settle the litigation outstanding against the regulations.
- Make the regulations easier to use and less complex.

In general, the Agency has not found the benefits of permit consolidation, in any of the three senses listed above, to be as extensive as expected. Consolidated processing of multiple permits has been very rare. The fact that the various permit programs regulate inherently different activities and thus must impose generally different sorts of requirements has limited commonalities across permit programs. Finally, the consolidated format of the regulations has made them unnecessarily difficult to use.

For example, the consolidated format for Part 122 tended to make an applicant interested in meeting the requirements for a single permit do two undesirable things:

- *Read* unrelated material pertaining to other permits not of interest to him; and
- Flip back and forth between two subparts of the regulations.

Although Subpart A contained mostly material common to all permit programs, it also contained material applicable to individual programs. That material proved to be distracting. In addition, the frequent necessity to proceed back and forth between Subpart A and Subpart B, C, or D caused confusion. Part 123 (state program requirements) of the CPR was organized similarly—it too tended to make an individual or state interested in a single permit program read irrelevant material and flip back and forth between subparts.

Today's deconsolidation is intended to correct the problems created by the consolidated format. It will also make it easier to implement other, more substantive changes under consideration to meet our objective of providing regulatory relief.

II. Relationship of This Promulgation to Other Changes in the CPR

Today's promulgation of "deconsolidated" regulations is only one of several steps we have taken or will take, to meet our regulatory relief objectives. The Agency has already completed two rule-makings to meet these objectives:

(1) Amendments dealing with issues addressed in the settlement agreement on the UIC-related issues of the CPR were promulgated in the Federal Register on August 27 1981 (46 FR 43156) and on February 3, 1982 (47 FR 4992).

(2) Technical amendments dealing with some of the issues addressed in the settlement agreement on the RCRA-related issues of the CPR were promulgated on April 8, 1982 (47 FR 15304).

These changes are reflected in today's deconsolidated regulations.

In addition, the Agency has proposed other regulatory changes:

(1) Amendments dealing with nearly all of the issues addressed in the settlement agreement on the NPDES-related issues of the CPR were proposed on November 18, 1982 (47 FR 52072).

(2) An amendment dealing with one of the issues addressed in the settlement agreement on the RCRA-related issues in the CPR was proposed on July 23, 1982 (47 FR 32038).

(3) Amendments dealing with issues addressed in the settlement agreement that were common to more than one permit program (the "common issues settlement") and 3 issues specific to the NPDES program were proposed on June 14, 1982 (47 FR 25546).

The Agency plans to propose more changes to the deconsolidated CPR over the next few months:

(1) Additional changes addressing the remaining issues dealt with in the settlement agreement on the RCRA-related issues in the CPR.

(2) Substantive changes to reform the NPDES program beyond those changes resulting from litigation, including final action on several provisions of the NPDES regulations which are currently suspended.

(3) Substantive changes to encourage assumption of the 404 permit program by states.

(4) EPA may also propose a set of changes to streamline the permitting procedures common to all programs found in Part 124.

These proposed changes will be reflected in the appropriate program regulations when rulemaking is complete.

The Agency believes that these changes will respond to nearly all of the criticisms that have been directed against the CPR. The regulations that result should be substantially less onerous for all concerned—permitters, permittees, states, citizens, and EPA—and will only very minimally, if at all, reduce the environmental protection that the regulations are intended to achieve.

III. Description of Today's Amendments

In today's amendments, we are simply revising the consolidated format of the regulations. We are deconsolidating Part 122 (permit requirements) and Part 123 (state program requirements) of the CPR. We are leaving Part 124 (common permitting procedures) in its current consolidated format. Each part of the new regulations (122, 123, 144, 145, 233, 270, 271) will pertain solely to one permit program. The reader interested in only one permit program will not have to read irrelevant material pertaining to another program. Furthermore, EPA has attempted to order the subparts within each part in a logical sequence so that reading can be done sequentially.

Today's amendments simply reiterate the existing content of the regulations in a new format, with two narrow exceptions. First, several provisions have been deleted because they duplicate other provisions in the regulations or explain the consolidated format of the regulations and thus are no longer necessary. Deleted provisions are identified in the tables in the Appendix. Second, a few technical amendments have been made. They are described below.

In addition to the organizational changes resulting from deconsolidating, the Agency has made minor wording changes to UIC permitting requirements in selected sections of Part 144 (old Part 122). These changes essentially involve amending language to clarify the scope and enforceability of the procedural requirements which were previously outlined in 40 CFR Part 122, but they in no way extend the scope of the regulations. For example, in several sections the language has been changed from an indirect description of what standard a program must require an owner/operator meet, to language that simply states that an owner/operator "is required" to meet the standard. These minor wording changes, in addition to making the existing requirements more specific, will also enable EPA, where appropriate, to incorporate these regulations by reference directly into each federally implemented program the Agency promulgates, since the requirements will be couched in language that makes them directly enforceable against owner/operators.

The language changes do not alter the fact, however, that the requirements of Parts 144 and 145 are simply minimum requirements for all UIC programs. The old regulations in § 122.1(b)(1)(i) and § 122.31(a) have always made clear that the regulations were to serve as minimum requirements for EPA administered programs as well as approved state programs. These regulations do not impose requirements directly on owner/operators. The requirements set forth in these regulations will become binding on owner/operators only when they are included in a specific state program. Each state program will be approved (in the case of a state administered program) or promulgated (in the case of an EPA administered program) pursuant to appropriate procedural requirements.

The Agency has also made a minor technical change in the § 404 permitting requirements at § 233.18, Confidentiality of Information. In the existing regulations, the denial of request for confidentiality of the application form and the permit appears only in the NPDES section; it should have also appeared in the 404-specific section in accordance with Section 404(o) of the Clean Water Act. This technical change in today's regulations corrects that omission.

The Agency has also incorporated into today's regulations previously issued suspensions of several provisions of the NPDES permitting requirements. The text of these suspensions, and the date of their original issuance, are indicated at the end of those sections of the regulations where the suspended portions are located.

The first two suspensions affect definitions found in § 122.2. On July 21, 1980, the last sentence of the definition of "waters of the United States," which affects the exclusion of certain waste treatment systems from the definition of waters of the U.S., was suspended. On October 15, 1980, the definition of "new discharger" was suspended only as it applies to offshore mobile drilling rigs operating in areas other than those classified as environmentally sensitive.

Several suspensions have been made which limit the mandatory testing requirements of the NPDES application form 2C for primary industry categories. These suspensions are explained in detail in the notes following § 122.21, as well as the revised Table I of Appendix A to Part 122. In addition, portions of the footnotes to the table in §122.21(d)(2), which explain the requirements for submission of applications and accompanying effluent data, have been suspended. This suspension is explained in note 5 following §122.21.

Also, paragraphs (b)(1) and (b)(2) of § 122.29 have been suspended. These sections explain the difference between a new source and a modification of an existing source.

Final Agency action on each of these suspensions will be taken in subsequent Agency rulemakings. For example, on June 14, 1982, at FR 25828, *et seq*, EPA proposed amendments to the "new discharger" definition as it affects mobile drilling rigs. The suspension of the definition made on October 15, 1980 will be withdrawn once final regulations on this proposal are published.

Finally, the Agency has also made several minor corrections to RCRA Parts 270 and 271.

Reorganization and renumbering of old Parts 122 and 123 necessitates revising the cross-references to former Parts 122 and 123 found elsewhere in the Code of Federal Regulations. Cross-references have thus been revised in 40 CFR Parts 124, 125, 146, 260, 261, 262, 263, 264, and 265.

As an appendix to this preamble, EPA has prepared a table illustrating how the Agency has reorganized the CFR. Note that since the Agency is only reorganizing the CFR, we are making no changes to any of the permit application forms that were published with the regulations. These forms remain in effect and we are not reprinting them here. Also note that since the Agency is not now modifying Part 124 of the regulations, the procedures of that Part allowing consolidated processing of applications for multiple permits remain in effect. As indicated previously, EPA is considering separate rulemaking to revise Part 124.

IV. Effective Date and Final Promulgation

This promulgation does not change the substance of the regulations at all; it merely changes their location in the Code of Federal Regulations. Accordingly, we are proceeding directly to promulgation without previously having proposed the regulation. EPA further believes that this is not the type of regulation that Congress had in mind when it provided a delay between the promulgation and the effective date of revisions to regulations. Making the changed format effective immediately will benefit those who use the regulation. Consequently, EPA believes it has good cause to make these rules effective immediately.

V. Executive Order 12291

This regulation is not major because it will not result in an annual effect on the economy of $100 million or more, nor will it result in an increase in costs or prices to industry. There will be no adverse impact on the ability of the U.S.-based enterprises to compete with foreign-based enterprises in domestic or export markets. The regulation merely changes the location of the permit and state authorization requirements in the Code of Federal Regulations.

EPA submitted this rule to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available through: John Chamberlin, PM-220, U.S. Environmental Protection Agency, Washington, D.C.

VI. Regulatory Flexibility Act

Today's promulgation does not change any substantive requirements of the permitting regulations.

Accordingly, I hereby certify that this regulation will not have a significant economic impact on a substantial number of small entities.

List of Subjects

40 CFR Part 122

Administrative practice and procedure, Reporting and recordkeeping requirements, Water pollution control, Confidential business information.

40 CFR Part 123

Indians—lands, Reporting and recordkeeping requirements, Water pollution control, Intergovernmental relations, Penalties, Confidential business information.

40 CFR Part 124

Administrative practice and procedure, Air pollution control, Hazardous materials, Waste treatment and disposal, Water pollution control, Water supply, Indians—lands.

40 CFR Part 125

Water pollution control, Waste treatment and disposal.

40 CFR Part 144

Administrative practice and procedure, Reporting and recordkeeping requirements, Confidential business information, Water supply.

40 CFR Part 145

Indians—lands, Reporting and recordkeeping requirements, Intergovernmental relations, Penalties, Confidential business information, Water supply.

40 CFR Part 146

Hazardous materials, Reporting and recordkeeping requirements, Waste treatment and disposal, Water supply.

40 CFR Part 233

Administrative practice and procedure, Reporting and recordkeeping requirements, Confidential business information, Water supply, Indians—lands, Intergovernmental relations, Penalties, Confidential business information.

40 CFR Part 260

Administrative practice and procedure, Confidential business information, Hazardous materials, Waste treatment and disposal.

40 CFR Part 261

Hazardous materials, Waste treatment and disposal, Recycling.

40 CFR Part 262

Hazardous materials, Imports, Labeling, Packaging and containers, Reporting and recordkeeping requirements, Waste treatment and disposal.

40 CFR Part 263

Hazardous materials transportation, Waste treatment and disposal.

40 CFR Part 264

Hazardous materials, Packaging and containers, Reporting and recordkeeping requirements, Security measures, Surety bonds, Waste treatment and disposal.

40 CFR Part 265

Hazardous materials, Packaging and containers, Reporting and recordkeeping requirements, Security measures, Surety bonds, Waste treatment and disposal, Water supply.

40 CFR Part 270

Administrative practice and procedure, Reporting and recordkeeping requirements, Hazardous materials, Waste treatments and disposal, Water pollution control, Water supply, Confidential business information.

40 CFR Part 271

Hazardous materials, Reporting and recordkeeping requirements, Waste treatment and disposal, Water pollution control, Water supply, Intergovernmental relations, Penalties, Confidential business information.

Dated: March 16, 1983.

John W. Hernandez,

Acting Administrator.

Authority: Clean Water Act, Safe Drinking Water Act, Clean Air Act, Resource Conservation and Recovery Act, 42 U.S.C. 6905, 6912, 6925, 6927, 6974.

Appendix

This appendix describes the reorganization of former Parts 122 and 123. Four tables follow—one for each program: NPDES, RCRA, UIC, 404. Each table lists all provisions of former Parts 122 and 123 applicable to the particular program and the new location at which the provisions are now presented.

NPDES Program

Below is a list of the NPDES-related sections in former Parts 122 and 123 and their corresponding sections in new Parts 122 and 123.

Name and old	New
What are the consolidated permit regulations?	
§ 122.1	
(a)	122.1(a).
(b)	122.1(c).
(c)	122.1(d).
(d)	122.1(g).
(e)	122.1(e).
(f)	122.1(f).
Purpose and scope of Part 122	
§ 122.2	
(a)	Removed.
(b)	Removed.
Definitions	
§ 122.3	122.2.
Application for a permit	
§ 122.4	
(a)	122.21(a).
(b)	122.21(b).
(c)	122.21(e).
(d)	122.21(f).
(e)	122.21(d).
Continuation of expiring permits	
§ 122.5	122.6.
Signatories to permit applications and reports	
§ 122.6	122.22.
Conditions applicable to all permits	
§ 122.7	122.41 (All sections are same paragraphs.)
Establishing permit conditions	
§ 122.8	122.43.
Duration of permits	
§ 122.9	
(a)	122.46(a).
(b)	Removed.
(c)	Removed.
(d)	122.46(b).
(e)	122.46(c).
Schedules of compliance	
§ 122.10	122.47.
Requirements for recording and reporting of monitoring results	
§ 122.11	122.48.
Considerations under Federal law	
§ 122.12	122.49.
Effect of a permit	
§ 122.13	122.5.
Transfer of permits	
§ 122.14	122.61.
Modification or revocation and reissuance of permits	
§ 122.15	122.62.
(a)(5)(i)	122.62(a)(3).
(a)(5) (ii)–(vi)	122.62(a) (6)–(15)
(a)(6)	Removed.
Termination of permits	
§ 122.16	122.64.
Minor modifications of permits	
§ 122.17	122.63.
(g)	(e).
Noncompliance and program reporting by the Director	
§ 122.18	123.45.
(b)	Removed.
(c)	123.45(b).
(d)	Removed.
(e)	123.45(c).
Confidentiality of information	
§ 122.19	122.7.
Purpose and scope of Subpart D	
§ 122.51	
(a)	Removed.
(b)	122.1(g).
(c)(1)	122.1(h).
(c)(2)	122.3.
Prohibitions	
§ 122.52	122.4.
Application for a permit	
§ 122.53	
(a)	122.21(a).
(b)	122.21(c).
(c)	122.21(d).
(d)	122.21(g).
(e)	122.21(h).
(f)	122.21(i).
(g)	122.21(j).
(h)	122.21(k).
(i)	122.21(l).
(j)	122.21(m).
(k)	122.21(n).

Name and old	New
Concentrated animal feeding operations	
§ 122.54	122.23
Concentrated aquatic animal production facilities	
§ 122.55	122.24
Aquaculture projects	
§ 122.56	122.25
Separate storm sewers	
§ 122.57	122.26
Silvicultural activities	
§ 122.58	122.27
General permits	
§ 122.59	122.28
Additional conditions applicable to all NPDES permits	
§ 122.60	122.41
(a)	122.41(a)
(b)	122.41(c)
(c)	122.41(j)(4), (5)
(d)	122.41(k)
(e)	122.41(l)(3)
(f)	122.41(l)(6)
(g)	122.41(m)
(h)	122.41(n)
Additional conditions applicable to specified categories of NPDES permits	
§ 122.61	122.42
Establishing NPDES permit conditions	
§ 122.62	122.44
Calculating NPDES permit conditions	
§ 122.63	122.45
Duration of certain NPDES permits	
§ 122.64	
(a)	122.46(d)
(b)	122.46(e)
(c)	122.46(f)
Disposal of pollutants into wells, into publicly owned treatment works or by land application	
§ 122.65	122.50
New sources and new dischargers	
§ 122.66	122.29
Purpose and scope	
§ 123.1	
(a)	123.1(a), (c)
(b)	Removed
(c)	Removed
(d)	Removed
(e)	123.1(e)
(f)	123.1(c)
(g)	123.1(d)
(h)	123.1(f)
(i)	Removed
(j)	123.1(h)
(k)	123.1(i)
Definitions	
§ 123.2	123.2
Elements of a program submission	
§ 123.3	123.21
Program description	
§ 123.4	123.22
Attorney General's statement	
§ 123.5	123.23
Memorandum of agreement with regional administrator	
§ 123.6	
(e)	123.24(d)
(g)	123.24(e)
Requirements for permitting	
§ 123.7	123.25
(a)(1)	(a)(4)
(2)	(5)
(3)	(12)
(4)	(14)
(5)	(17)
(6)	(18)
(7)	(19)
(8)	(20)
(9)	(21)
(10)	(22)
(11)	(23)
(12)	§ 123.45
(13)	123.25(a)(3)
(14)	(24)
(15)	(25)
(16)	(26)
(17)	(27)
(18)	(28)
(19)	(29)
(20)	(30)
(21)	(31)
(b)	Removed
(c)	Removed
(d)(1)	(a)(1)
(2)	(4)
(3)	(6)
(4)	(7)
(5)	(8)
(6)	(9)
(7)	(10)
(8)	(11)
(9)	(12)
(10)	(13)
(11)	(15)
(12)	(16)
(13)	(17)
(14)	(20)
(15)	(32)
(16)	(33)
(17)	(34)
(18)	(36)
(19)	(37)
(e)	(b)
Requirements for compliance evaluation programs	
§ 123.8	123.26
Requirements for enforcement authority	
§ 123.9	123.27
(a)(3)(ii)(A)	(a)(3)(i)
(a)(3)(ii)(B)	(a)(3)(ii)
(a)(3)(ii)(C)	(a)(3)(iii)
Sharing of information	
§ 123.10	123.41
Coordination with other programs	
§ 123.11	123.3
Approval process	
§ 123.12	123.61
Procedures for revision of State programs	
§ 123.13	
(g)	123.62(e)
Criteria for withdrawal of State programs	
§ 123.14	123.63
Procedures for withdrawal of State programs	
§ 123.15	123.64
Purpose and scope	
§ 123.71	
(a)	123.1(e)
(b)	123.1(f)
(c)	123.1(g)
(d)	123.1(d)
Control of disposal of pollutants into wells	
§ 123.72	123.28
Receipt and use of Federal information	
§ 123.73	123.42
Transmission of information to EPA	
§ 123.74	123.43
EPA review of and objections to State permits	
§ 123.75	123.44
Prohibitions	
§ 123.76	123.70
Approval process	
§ 123.77	123.61

UIC Programs

Below is a list of the UIC related sections in Parts 122 and 123 and their corresponding sections in Parts 144 and 145. Part 122 = 144.

Name and old	New
What are the consolidated regulations	
§ 122.1	§ 144.1
Purpose and scope of part 122	
§ 122.2	§ 144.1
Definitions	
§ 122.3	§ 144.3
Application for a permit	
§ 122.4	§ 144.31
§ 122.4(a)	Removed
§ 122.4(b)	§ 144.31(b)
§ 122.4(c)	§ 144.31(d)
§ 122.4(d)	§ 144.31(e)
§ 122.4(e)	§ 144.31(f)
Continuation of expiring permits	
§ 122.5	§ 144.37
Signatories to permit applications and reports	
§ 122.6	§ 144.32
Conditions applicable to all permits	
§ 122.7	§ 144.51(a)-(1)
Establishing permit conditions	
§ 122.8	
§ 122.8(a)	§ 144.52(a)
§ 122.8(b)(1)-(3)	§ 144.52(b)(1)-(3)
§ 122.8(c)	§ 144.52(c)
Duration of permits	
§ 122.9	§ 144.36
§ 122.9(c)	§ 144.36(a)
§ 122.9(d)	§ 144.36(b)
§ 122.9(e)	§ 144.36(c)
Schedule of compliance	
§ 122.10	§ 144.53
§ 122.10(a)(1)(ii)	§ 144.53(a)(1)(ii)
§ 122.10(a)(3)	§ 144.53(a)(2)
§ 122.10(a)(4)	§ 144.53(a)(3)
Requirements for recording and reporting of monitoring results	
§ 122.11	§ 144.54
Considerations under Federal law	
§ 122.12	§ 144.4
Effects of a permit	
§ 122.13	§ 144.35
Transfer of permits	
§ 122.14	§ 144.38
Modification or revocation and reissuance of permits	
§ 122.15	§ 144.39
Termination of permits	
§ 122.16	§ 144.40
Minor modification of permits	
§ 122.17	§ 144.41
§ 122.17(f)(1)	§ 144.41(e)
§ 122.17(f)(2)	§ 144.41(f)
§ 122.17(f)(3)	§ 144.41(g)
Noncompliance and program reporting by the director	
§ 122.18	§ 144.8
§ 122.18(c)	§ 144.8(b)
§ 122.18(c)(4)	§ 144.8(b)(2)
§ 122.18(e)	§ 144.8(c)
Confidentiality of information	
§ 122.19	§ 144.5
Purpose and scope of subpart C (reserved)	
§ 122.31	§ 144.1
Classification of wells	
§ 122.32	§ 144.6
Prohibition of unauthorized injection	
§ 122.33	§ 144.11
Prohibition of movement of fluid into underground sources of drinking water	
§ 122.34	§ 144.12
Identification of underground sources of drinking water and exempted aquifers	
§ 122.35	§ 144.7
Elimination of certain class IV wells	
§ 122.36	§ 144.13
Authorization of underground injection by rule	
§ 122.37	

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Name and old	New
§ 122.37(a)(1)	§ 144.21
§ 122.37(a)(2)	§ 144.22
§ 122.37(a)(3)	§ 144.23
§ 122.37(a)(4)	§ 144.24
§ 122.37(b)	§ 144.25
§ 122.37(c)	§ 144.26
§ 122.37(d)	§ 144.15
Application for a permit; authorization by permit	
§ 122.38	
§ 122.38(a)	§ 144.31(a)
§ 122.38(b)	§ 144.31(c)
§ 122.38(c)	§ 144.31(g)
Area permits	
§ 122.39	§ 144.33
Emergency permits	
§ 122.40	§ 144.34
Additional conditions applicable to all UIC permits	
§ 122.41	
§ 122.41(a)	§ 144.51(a)
§ 122.41(b)	§ 144.51(j)(2)(ii)
§ 122.41(c)	§ 144.51(m)
§ 122.41(d)	§ 144.51(l)(6)
§ 122.41(e)	§ 144.51(n)
Establishing UIC permit conditions	
§ 122.42	
§ 122.42(a)	§ 144.52(a)(1)
§ 122.42(b)	§ 144.52(a)(2)
§ 122.42(c)	§ 144.52(a)(3)
§ 122.42(d)	§ 144.52(a)(4)
§ 122.42(e)	§ 144.52(a)(5)
§ 122.42(f)	§ 144.52(a)(6)
§ 122.42(g)	§ 144.52(a)(7)
§ 122.42(h)	§ 144.52(a)(8)
§ 122.42(i)	§ 144.52(b)(1)
Waiver of requirements by director	
§ 122.43	§ 144.16
Corrective action	
§ 122.44	§ 144.55
Requirements for wells injecting hazardous waste	
§ 122.45	§ 144.14
Promulgation of class II programs for Indian lands	
§ 122.46	§ 144.2
Purpose and scope	
§ 123.1	
§ 123.1(a)	§ 145.1(a)
§ 123.1(b)	Deleted
§ 123.1(c)	§ 145.1(b)
§ 123.1(d)	§ 145.1(c)
§ 123.1(e)	§ 145.1(d)
§ 123.1(f)	§ 145.31(f)
§ 123.1(g)	§ 145.21(e)
§ 123.1(h)	§ 145.1(f)
§ 123.1(i)	Deleted
§ 123.1(j)	§ 145.21(f)
§ 123.1(k)	§ 145.1(g)
Definitions	
§ 123.2	§ 145.2
Elements of a program submission	
§ 123.3	§ 145.21
Program description	
§ 123.4	§ 145.22
§ 123.4(g)	§ 145.22(f)
Attorney General's statement	
§ 123.5	§ 145.23
Memorandum of agreement with the regional administrator	
§ 123.6	§ 145.24
Requirements for permitting	
§ 123.7	§ 145.11
§ 123.7(a)(1)-(21)	§ 145.11(a)(1)-(21)
§ 123.7(c)(1)-(12)	§ 145.11(a)(22)-(33)
Requirements for compliance evaluation programs	
§ 123.8	§ 145.12
Requirements for enforcement authority	
§ 123.9	§ 145.13
§ 123.9(a)(3)(ii)(A)	§ 145.13(a)(3)(ii)
§ 123.9(a)(3)(ii)(B)	§ 145.13(a)(3)(iii)
Sharing of information	
§ 123.10	§ 145.14
Coordination with other programs	
§ 123.11	Removed
Approval process	
§ 123.12	§ 145.31
Procedure for revision of State programs	
§ 123.13	§ 145.32
§ 123.13(f)	§ 145.32(e)
Criteria for withdrawal of State programs	
§ 123.14	§ 145.33
Procedures for withdrawal of State programs	
§ 123.15	§ 145.34
§ 123.15(a)	§ 145.34(a)
Purpose and scope of subpart C	
§ 123.51	§ 145.1
§ 123.51(a)	Deleted
§ 123.51(b)	§ 145.21(a)
§ 123.51(c)	§ 145.21(c)
§ 123.51(d)	§ 145.21(d)
§ 123.51(e)	§ 145.21(e)
Requirement to obtain a permit	
§ 123.52	§ 145.11(a)(27)
Progress reports	
§ 123.53	§ 145.21(b)
Approval process	
§ 123.54	§ 145.31
§ 123.54(a)-(c)	§ 145.31(a)-(c)
§ 123.54(d)	§ 145.31(e)
Procedures for withdrawal of State UIC programs	
§ 123.55	§ 145.34
§ 123.55(a)	§ 145.34(b)(1)
§ 123.55(b)	§ 145.34(b)(2)
§ 123.55(c)	§ 145.34(b)(3)

404 Program

Below is a list of the 404 related sections in Parts 122 and 123 and their corresponding sections in Part 233.

Old name	New
What are the consolidated permit regulations? (Purpose and scope of Part 233)	
122.1	233.1
122.1(a)	233.1(a)
122.1(b)(1) (i)-(iii)	233.1(b) (1)-(4)
122.1(b) (2)-(4)	Removed
122.1(c) (1)-(2)	233.1(c) (1)-(2)
122.1(d)	Removed
122.1(e)	233.1(d)
122.1(f)	233.1(e)
Purpose and scope	
122.2	233.2
122.2(a)	233.2
122.2(b)	Removed
Definitions	
122.3	233.3
Application for a permit	
122.4	233.4
122.4(a)	233.4(b)
122.4(b)	233.4(c)
122.4(c)	233.4(d)
122.4(d)	233.4(e)
122.4(e)	233.4(f)
Continuation of expiring permits	
122.5	233.5
122.5 (a)-(c)	Removed
122.5(d)	233.5
Signatories to permit application and reports	
122.6	233.6
122.6 (a)-(d)	233.6 (a)-(d)
Conditions applicable to all permits	
122.7	233.7
122.7 (a)-(f)	233.7 (a)-(f)
Establishing permit conditions	
122.8	233.8
122.8 (a)-(b)	233.8 (a)-(b)
122.8(c)	233.8(d)
Duration of permits	
122.9	233.9
122.9(a)	233.9(a)
122.9 (b)-(c)	Removed
122.9 (d)-(e)	233.9 (b)-(c)
Schedules of compliance	
122.10	233.10
122.10(a)	233.10(a)
122.10(a)(1)	233.10(a)(1)
122.10(a)(1) (i) and (ii)	Removed
122.10(a)(2)	Removed
122.10(a)(3)	233.10(a)(2)
122.10(a)(4)	233.10(a)(3)
122.10(b)	Removed
Requirements for recording and reporting of monitoring results	
122.11	233.11
122.11 (a)-(c)	233.11 (a)-(c)
Consideration under Federal law	
122.12	Removed
Effect of a permit	
122.13	233.12
122.13 (a)-(b)	233.12 (a)-(b)
122.13(c)	Removed
Transfer of permits	
122.14	233.13
122.14(a)	233.13
122.14(b)	Removed
Modification or revocation and reissuance of permits	
122.15	233.14
122.15(a)(1)-(2)	233.14(a)(1)-(2)
122.15(a)(3)(i)-(iv)	233.14(a)(3)(i)-(iv)
122.15(a)(3)(v)	Removed
122.15(a)(4)	233.14(a)(4)
122.15(a)(5)	Removed
122.15(a)(6)	233.14(a)(5)
122.15(b)	233.14(b)
122.15(c)	Removed
Termination of permits	
122.16	233.15
122.16(a)(1)	233.15(a)
122.16(a)(2)	233.15(b)
122.16(a)(3)	233.15(c)
122.16(a)(4)	233.15(d)
122.16(b)	Removed
Minor modification of permits	
122.17	233.16
122.17(a)-(d)	233.16(a)-(d)
122.17(e)-(g)	Removed
122.17(h)	233.16(e)

Old name	New
Noncompliance and program reporting by the director	
122.18	233.17
122.18(a)	Removed
122.18(b)	233.17(a)
122.18(c)	Removed
122.18(d)	233.17(b)
122.18(e)	233.17(c)
Confidentiality of information	
122.19	233.18
122.19(a)	Removed
122.19(b)(1)	233.18(a)(1)
122.19(b)(2)-(3)	Removed
122.19(b)(4)	233.18(a)(2)
122.19(c)-(d)	Removed
Purpose and scope	
123.1	233.20
123.1(a)	233.20(a)
123.1(b)	Removed
123.1(c)	233.20(b)
123.1(d)	233.20(c)
123.1(e)	233.20(d)
123.1(f)	233.20(e)
123.1(g)	233.20(f)
123.1(h)	233.20(g)
123.1(i)	233.20(h)
123.1(j)	233.20(i)
123.1(k)	233.20(j)
Definitions	
123.2	Removed
Elements of a program submission	
123.3	233.21
123.3(a)-(d)	233.21(a)-(d)
Program description	
123.4	233.22
123.4(a)-(e)	233.22(a)-(e)
123.4(f)-(g)	Removed
123.4(h)(1)-(6)	233.22(f)-(k)
Attorney General's statement	
123.5	233.23
123.5(a)-(b)	233.23(a)-(b)
123.5(c)	Removed
123.5(d)	233.23(c)
Memorandum of agreement with the Regional Administrator	
123.6	233.24
123.6(a)	233.24(a)
123.6(b)(1)	Removed
123.6(b)(2)-(3)	233.24(b)(1)-(2)
123.6(b)(4)	233.24(b)(3)
123.6(b)(5)	Removed
123.6(b)(6)	233.24(b)(4)
123.6(c)	233.24(c)
123.6(d)	Removed
123.6(e)	Removed
123.6(f)	233.24(d)
123.6(g)	233.24(e)
Requirements for permitting	
123.7	233.26
123.7(a)	233.26(a)
123.7(b)-(d)	Removed
123.7(e)	233.26(b)
Requirements for compliance evaluation programs	
123.8	233.27
123.8(a)-(d)	233.27(a)-(d)
123.8(e)	Removed
Requirements for enforcement authority	
123.9	233.28
123.9(a)(1)	233.28(a)(4)
123.9(a)(3)(i)-(ii)	Removed
123.9(a)(3)(iii)	233.28(a)(4)(ii)
Sharing of information	
123.10	233.29
Coordination with other programs	
123.11	233.30
Approval process	
123.12	233.31
Procedures for revision of State programs	
123.13	233.32
123.13(a)-(d)	233.32(a)-(d)
123.13(e)-(g)	Removed
123.13(h)	233.32(e)
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123.14	233.33
Procedures for withdrawal of State programs	
123.15	233.34
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123.91(a)	Removed
123.91(b)	Removed
123.91(c)	233.20(f)
123.91(d)	233.21(e)
Activities not requiring permits	
123.92	233.35
Prohibitions	
123.93	233.36
Applications for a permit	
123.94	233.4
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123.94(b)	233.4(b)
123.94(c)	233.4(c)
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123.96	233.38
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123.100	233.39
EPA review of and objections to State permits	
123.101	233.40
Coordination requirements	
123.102	233.41
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123.103	233.28(a)(3)
Approval process	
123.104	233.31

Index of Changes to Parts 122 and 123

Below is a list of the RCRA related sections in Parts 122 and 123, and their corresponding sections in Parts 270 and 271.

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Name and old	New
What are the consolidated permit regulations?	
§122.1	270.1
(a)(1)	(a)(1)
(a)(2)-(6)	Removed
Purpose and scope of Part 122	
§122.2	270.1
(b)	Removed
Definitions	
§122.3	270.2
Application for a permit	
§122.4	270.10
(a)-(f)	(a)-(f)
(g)	(g)
(d)(1)-(d)(4)	270.13(a)-(d)
(d)(5)	270.13(e)
(d)(6)-(d)(8)	270.13(f)-(h)
(e)	270.10(h)
Continuation of expiring permits	
§122.5	270.51
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§122.6	270.11
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§122.7	270.30
(l)(7)-(l)(8)	(l)(9)-(l)(11)
Establishing permit conditions	
§122.8	270.32
(a)-(b)	(a)
(b)(2)-(7)	(c)-(d)
(c)	(e)
Duration of permits	
§122.9	270.50
(b)	(a)
(c)	(b)
(d)	(c)
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§122.10	270.33
(a)(1)-(4)	(a)(1)-(3)
Requirements for recording and reporting of monitoring results	
§122.11	270.31
Considerations under Federal law	
§122.12	270.3
Effect of a permit	
§122.13	270.4
Transfer of permits	
§122.14	270.40
Modification or revocation and reissuance of permits	
§122.15	270.41
(a)(7)	(a)(3)
Termination of permits	
§122.16	270.43
Minor modifications of permits	
§122.17	270.42
(a)(1)-(5)	(a)-(e)
Noncompliance and program reporting by the Director	
§122.18	270.5
(c)	(b)
(c)(3)	(b)(2)
(d)	(c)
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§122.21	270.1
(a)	Removed
(b)(1)-(b)(7)	(c)(1)
(c)(8)	(c)(7)
(c)(8)	(b)(c)
(d)(2)(ii)	Removed
(d)(2)(iii)-(iv)	[illegible]
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§122.22	270.10
(a)-(d)	(a)-(d)
Interim status	
§122.23	270.70-270.73
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(a)	270.70
Coverage	
(b)	270.71(a)

Name and old	New
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(d)	270.71(b).
Grounds for termination	
(e)	270.73
Contents of Part A of the RCRA permit application	
§ 122.24	270.13.
(a)	(b).
(b)	(e).
(c)-(g)	(g)-(l)
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§ 122.25	270.14-270.29.
(a)	270.14.
(a)	(b)
(b)(1)	270.15
(i)-(vi)	(a)-(d)
(b)(2)	270.16.
(i)-(vi)	(a)-(f)
(b)(3)	270.17
(i)-(ix)	(a)-(i)
(b)(4)	270.18.
(i)-(ix)	(a)-(i)
(b)(5)	270.19.
(i)-(iv)	(a)-(d).
(b)(6)	270.20
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(b)	270.62
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(c)	270.63
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§ 122.28	270.30.
(b)	(l)(2)
(c)	(l)(2)
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(e)(1)-(3)	(l)(7)-(9)
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§ 122.29	270.32(a)-(b)
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Name and old	New
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Retitled: Requirements for final authorization	
Purpose and scope	
§ 123.1	§ 271.1
(a)(2)-(4)	Removed.
(b)	Removed
(c)-(h)	(b)-(g)
Note	Removed
Definitions	
§ 123.2	§ 271.2
Elements of a program submission	
§ 123.3	§ 271.5
Program description	
§ 123.4	§ 271.6
(f)	Removed
(f)(1)-(3)	(f)-(h)
(f)(4)	Removed
(g) and (h)	Removed
Attorney General's statement	
§ 123.5	§ 271.7.
(c) and (d)	Removed.
Memorandum of agreement	
§ 123.6	§ 271.8
(b)(1)	(b)(6).
(b)(2)	(b)(7).
(b)(3)	(b)(2)
(b)(4)	(b)(3).
(b)(5)	(b)(8).
(b)(6)	(b)(11)
(d)	Removed
(d)(1)	(b)(4).
(d)(2)	(b)(5).
(d)(3)	(b)(9).
(d)(4)	(b)(1).
(d)(5)	(b)(10).
(e)-(g)	Removed.
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§ 123.7	§ 271.14.
(a)	Removed.
(a)(1)	(d)
(a)(2)	(e).
(a)(3)	(i).
(a)(4)	(k).
(a)(5)	(p)
(a)(6)	(l).
(a)(7)	(j)
(a)(8)	(b)
(a)(9)	(m)
(a)(10)	(n)
(a)(11)	(o).
(a)(12)	(c)
(a)(13)	(f)
(a)(14)-(21)	(t)-(aa)
(b)	Removed
(b)(1)	(a)
(b)(2)	(d)
(b)(3)	(g)
(b)(4)	(h)
(b)(5)	(q).
(b)(6)	(r)
(b)(7)	(l)
(b)(8)	(s)
(b)(9)	(u)
Requirements for compliance evaluation program	
§ 123.8	§ 271.15
(e)	Removed
Requirements for enforcement authority	
§ 123.9	§ 271.16
(a)(3)(i)	Removed
(a)(3)(ii)(A) and (B)	(a)(3)(i) and (ii)
(a)(3)(iii)	Removed
(a)(3)(iv)	Removed
Sharing of information	
§ 123.10	§ 271.17
Coordination with other programs	
§ 123.11	§ 271.18
Approval process	
§ 123.12	Removed
Procedures for revision of State programs	
§ 123.13	§ 271.21
(f)-(h)	Removed
Criteria for withdrawal of State programs	
§ 123.14	§ 271.22
Retitled: Procedures for withdrawing approval of State programs	
Procedures for withdrawal of State programs	
§ 123.15	§ 271.23
Retitled: Procedures for withdrawing approval of State programs	
Subpart B—Additional Requirements for State Hazardous Waste Programs	
Sections 123.31-123.39 are now included in Subpart A as follows	
Retitled: Availability of final authorization	
§ 123.31	§ 271.3
(a)	Removed
(b)-(e)	(a)-(d)
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§ 123.32	§ 271.4
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§ 123.33	§ 271.9
Requirements for generators of hazardous wastes	
§ 123.34	§ 271.10
Requirements for transporters of hazardous wastes	
§ 123.35	§ 271.11
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§ 123.36	§ 271.12
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§ 123.37	§ 271.13
EPA review of State permits	
§ 123.38	§ 271.19
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Subpart F—Requirements for interim authorization of State hazardous waste programs	
Retitled: Subpart B—Requirements for interim authorization	
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Schedule	
§ 123.122	§ 271.122
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§ 123.124	§ 271.124
Attorney General's statement	
§ 123.125	§ 271.125
Memorandum of agreement	
§ 123.126	§ 271.126
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§ 123.127	§ 271.127
Program requirements for interim authorization for phase I	
§ 123.128	§ 271.128
Additional program requirements for interim authorization for phase II	
§ 123.129	§ 271.129
Interstate movement of hazardous waste	
§ 123.130	§ 271.130
Progress reports	
§ 123.131	§ 271.131
Sharing of information	
§ 123.132	§ 271.132
Coordination with other programs	
§ 123.133	§ 271.133
EPA review of State permits	
§ 123.134	§ 271.134
Approval process	
§ 123.135	§ 271.135
Withdrawal of State programs	
§ 123.136	§ 271.136
Reversion of State programs	
§ 123.137	§ 271.137

Part 122 is revised to read as follows

PART 122—NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart A—Definitions and General Program Requirements

Sec.
122.1 Purpose and Scope.
122.2 Definitions.
122.3 Exclusions.

Sec.
122.4 Prohibitions (applicable to State NPDES Programs, see § 123.25).
122.5 Effect of a permit.
122.6 Continuation of expiring permits.
122.7 Confidentiality of information.

Subpart B—Permit Application and Special NPDES Program Requirements

122.21 Application for a permit (applicable to State programs, see § 123.25).
122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).
122.23 Concentrated animal feeding operations (applicable to State NPDES programs, see § 123.25).
122.24 Concentrated aquatic animal production facilities (applicable to State NPDES programs, see § 123.25).
122.25 Aquaculture projects (applicable to State NPDES programs, see § 123.25).
122.26 Separate storm sewers (applicable to State NPDES programs, see § 123.25).
122.27 Silvicultural activities (applicable to State NPDES programs, see § 123.25).
122.28 General permits (applicable to State NPDES programs, see § 123.25).
122.29 New sources and new discharges.

Subpart C—Permit Conditions

122.41 Conditions applicable to all permits (applicable to State programs, see § 123.25).
122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).
122.43 Establishing permit conditions (applicable to State programs, see § 123.25)
122.44 Establishing limitations, standards and other permit conditions (applicable to State NPDES programs, see § 123.25).
122.45 Calculating NPDES permit conditions (applicable to State NPDES programs, see § 123.25).
122.46 Duration of permits (applicable to State programs, see § 123.25).
122.47 Schedules of compliance.
122.48 Requirements for recording and reporting of monitoring results (applicable to State programs, see § 123.25).
122.49 Considerations under Federal law.
122.50 Disposal of pollutants into wells, into publicly owned treatment works or by land application (applicable to State programs, see § 123.25).

Subpart D—Transfer, modification, revocation and reissuance, and termination of permits

122.61 Transfer of permits (applicable to State programs, see § 123.25).
122.62 Modification or revocation and reissuance of permits (applicable to State programs, see § 123.25).
122.63 Minor modifications of permits.
122.64 Termination of permits (applicable to State programs, see § 123.25).

Authority: The Clean Water Act, 33 U.S.C. § 1251 *et seq.*

Appendix A—NPDES Primary Industry Categories.
Appendix B—Criteria for Determining a Concentrated Animal Feeding Operation (§ 122.23)
Appendix C—Criteria for Determining a Concentrated Aquatic Animal Production Facility (122.24).
Appendix D—NPDES Permit Application Testing Requirements (122.21).

Subpart A—Definitions and General Program Requirements

§ 122.1 Purpose and scope.

(a) *Coverage.* (1) These regulations contain provisions for the *National Pollutant Discharge Elimination System* (NPDES) Program under sections 318, 402, and 405(a) of the *Clean Water Act* (CWA) (Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 U.S.C. 1251 *et seq.*).

(2) These regulations cover basic EPA permitting requirements (Part 122), what a State must do to obtain approval to operate its program in lieu of a Federal program and minimum requirements for administering the approved State program (Part 123), and procedures for EPA processing of permit applications and appeals (Part 124). Part 124 is also applicable to other EPA permitting programs, as detailed in that Part.

(b) *Scope of the NPDES permit requirement.* (1) The NPDES program requires permits for the discharge of "pollutants" from any "point source" into "waters of the United States." The terms "pollutant", "point source" and "waters of the United States" are defined in § 122.2.

(2) The following are point sources requiring NPDES permits for discharges:

(i) Concentrated animal feeding operations as defined in § 122.23;

(ii) Concentrated aquatic animal production facilities as defined in § 122.24;

(iii) Discharges into aquaculture projects as set forth in § 122.25;

(iv) Discharges from separate storm sewers as set forth in § 122.26; and

(v) Silvicultural point sources as defined in § 122.27.

(c) *State Programs.* Certain requirements set forth in Parts 122 and 124 are made applicable to approved State programs by reference in Part 123. These references are set forth in § 123.25. If a section or paragraph of Parts 122 or 124 is applicable to States, through reference in § 123.25, that fact is signaled by the following words at the end of the section or paragraph heading: *(applicable to State programs, see § 123.25)*. If these words are absent, the section (or paragraph) applies only to EPA administered permits.

(d) *Relation to other requirements.* (1) *Permit application forms.* Applicants for EPA issued permits must submit their applications on EPA's permit application forms when available. Most of the information requested on these application forms is required by these regulations. The basic information required in the general form (Form 1) and the additional information required for NPDES applications (Forms 2a–d) are listed in § 122.21. Applicants for State issued permits must use State forms which must require at a minimum the information listed in these sections.

(2) *Technical regulations.* The NPDES permit program has separate additional regulations that contain technical requirements. These separate regulations are used by permit issuing authorities to determine what requirements must be placed in permits if they are issued. These separate regulations are located at 40 CFR Parts 125, 129, 133, 136 and 40 CFR subchapter N (Parts 400–460).

(e) *Public participation.* This rule establishes the requirements for public participation in EPA and State permit issuance and enforcement and related variance proceedings, and in the approval of State NPDES programs. These requirements carry out the purposes of the public participation requirements of 40 CFR Part 25 (Public Participation), and supersede the requirements of that Part as they apply to actions covered under Parts 122, 123, and 124.

(f) *State authorities.* Nothing in Parts 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

(g) *Authority.* (1) Section 301(a) of CWA provides that "Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful."

(2) Section 402(a)(1) of CWA provides in part that "The Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, * * * upon condition that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of this Act, or prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act."

(3) Section 318(a) of CWA provides that "The Administrator is authorized, after public hearings, to permit the discharge of a specific pollutant or pollutants under controlled conditions associated with an approved aquaculture project under Federal or

State supervision pursuant to section 402 of this Act."

(4) Section 405 of CWA provides, in part, that "Where the disposal of sewage sludge resulting from the operation of a treatment works as defined in section 212 of this Act (including the removal of in-place sewage sludge from one location and its deposit at another location) would result in any pollutant from such sewage sludge entering the navigable waters, such disposal is prohibited except in accordance with a permit issued by the Administrator under section 402 of this Act."

(5) Sections 402(b), 318 (b) and (c), and 405(c) of CWA authorize EPA approval of State permit programs for discharges from point sources, discharges to aquaculture projects, and disposal of sewage sludge.

(6) Section 304(i) of CWA provides that the Administrator shall promulgate guidelines establishing uniform application forms and other minimum requirements for the acquisition of information from dischargers in approved States and establishing minimum procedural and other elements of approved State NPDES programs.

(7) Section 501(a) of CWA provides that "The Administrator is authorized to prescribe such regulations as are necessary to carry out his functions under this Act."

(8) Section 101(e) of CWA provides that "Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this Act shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes."

§ 122.2 Definitions.

The following definitions apply to Parts 122, 123, and 124. Terms not defined in this section have the meaning given by CWA. When a defined term appears in a definition, the defined term is sometimes placed in quotation marks as an aid to readers.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all State, interstate, and Federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in "approved States," including any approved modifications or revisions.

Approved program or *approved State* means a State or interstate program which has been approved or authorized by EPA under Part 123.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BMPs means "best management practices."

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 *et seq.*

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily discharge means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Direct discharge means the "discharge of a pollutant."

Director means the Regional Administrator or the State Director, as the context requires, or an authorized representative. When there is no "approved State program," and there is an EPA administered program, "Director" means the Regional Administrator. When there is an approved State program, "Director" normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. (For example, when EPA has issued an NPDES permit prior to the approval of a State program, EPA may retain jurisdiction over that permit after program approval, see § 123.1.) In such cases, the term "Director" means the Regional Administrator and not the State Director.

Discharge when used without qualification means the "discharge of a pollutant."

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

DMR means "Discharge Monitoring Report."

Draft permit means a document prepared under § 124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in § 124.5, are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 124.5, is not a "draft permit." A "proposed permit" is not a "draft permit."

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Effluent limitations guidelines means a regulation published by the Administrator under section 304(b) of CWA to adopt or revise "effluent limitations."

Environmental Protection Agency ("EPA") means the United States Environmental Protection Agency.

EPA means the United States "Environmental Protection Agency."

Facility or activity means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

General permit means an NPDES "permit" issued under § 122.28 authorizing a category of discharges under the CWA within a geographical area.

Hazardous substance means any substance designated under 40 CFR Part 116 pursuant to section 311 of CWA.

Indirect discharger means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

Interstate agency means an agency of two or more States established by or under an agreement or compact approved by the Congress, or any other agency of two or more States having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator under the CWA and regulations.

Major facility means any NPDES "facility or activity" classified as such by the Regional Administrator, or, in the case of "approved State programs," the Regional Administrator in conjunction with the State Director.

Maximum daily discharge limitation means the highest allowable "daily discharge."

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved managment agency under section 208 of CWA.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an "approved program."

New discharger means any building, structure, facility, or installation:

(a) From which there is or may be a new or additional "discharge of pollutants" at a "site" at which on October 18, 1972 it had never discharged pollutants; and

(b) Which has never received a finally effective NPDES "permit" for discharges at that site; and

(c) Which is not a "new source."

This definition includes an "indirect discharger" which commences discharging into "waters of the United States." It also includes any existing mobile point source, such as an offshore oil drilling rig, seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a location for which it does not have an existing permit. [See Note 2 of this section.]

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or

(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System."

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this Part and Parts 123 and 124. "Permit" includes an NPDES "general permit" (§ 122.28). Permit does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point source means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

[Note.—Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See *Train* v. *Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976).]

POTW means "publicly owned treatment works."

Primary industry category means any industry category listed in the NRDC settlement agreement (*Natural Resources Defense Council et al.* v. *Train*, 8 E.R.C. 2120 (D.D.C. 1976), *modified* 12 E.R.C. 1833 (D.D.C. 1979)); also listed in Appendix A of Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a "POTW."

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Proposed permit means a State NPDES "permit" prepared after the close of the public comment period (and, when applicable, any public hearing and administrative appeals) which is sent to EPA for review before final issuance by the State. A "proposed permit" is not a "draft permit."

Publicly owned treatment works ("POTW") means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality." This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Recommencing discharger means a source which recommences discharge after terminating operations.

Regional Administrator means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.

Schedule of compliance means a schedule of remedial measures included in a "permit", including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the CWA and regulations.

Secondary industry category means any industry category which is not a "primary industry category."

Secretary means the Secretary of the Army, acting through the Chief of Engineers.

Sewage from vessels means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels and regulated under section 312 of CWA, except that with respect to commercial vessels on the Great Lakes this term includes graywater. For the purposes of this definition, "graywater" means galley bath, and shower water.

Sewage sludge means the solids, residues, and precipitate separated from or created in sewage by the unit processes of a "publicly owned treatment works." "Sewage" as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff, that are discharged to or otherwise enter a publicly owned treatment works.

Site means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.

State Director means the chief administrative officer of any State or interstate agency operating an "approved program," or the delegated representative of the State Director. If responsibility is divided among two or more State or interstate agencies, "State Director" means the chief administrative officer of the State or interstate agency authorized to perform the particular procedure or function to which reference is made.

State/EPA Agreement means an agreement between the Regional Administrator and the State which coordinates EPA and State activities, responsibilities and programs including those under the CWA programs.

Total dissolved solids means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR Part 136.

Toxic pollutant means any pollutant listed as toxic under section 307(a)(1) of CWA.

Variance means any mechanism or provision under sections 301 or 316 of CWA or under 40 CFR Part 125, or in the applicable "effluent limitations guidelines" which allows modification to or waiver of the generally applicable effluent limitation requirements or time deadlines of CWA. This includes provisions which allow the establishment of alternative limitations based on fundamentally different factors or on sections 301(c), 301(g), 301(h), 301(i), or 316(a) of CWA.

Waters of the United States or *waters of the U.S.* means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate "wetlands;"

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in paragraphs (a)–(d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)–(f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.]

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

[Note 1.—At 45 FR 48620, July 21, 1980, the Environmental Protection Agency suspended until further notice in § 122.2, in the definition of "Waters of the United States." This revision continues that suspension.]

[Note 2.—At 45 FR 68391, Oct. 15, 1980 effective Oct. 15, 1980, the Environmental Protection Agency suspended until further notice the NPDES "new discharger" definition as it applies to offshore mobile drilling rigs operating in offshore areas adjacent to the Gulf Coast, Atlantic Coast, California and Alaska, except for the Flower Garden area in the Gulf of Mexico and other areas identified as environmentally sensitive by the Bureau of Land Management. This revision continues that suspension.]

§ 122.3 Exclusions.

The following discharges do not require NPDES permits:

(a) Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of transportation such as when used as an energy or mining facility, a storage facility or a seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development.

(b) Discharges of dredged or fill material into waters of the United States which are regulated under section 404 of CWA.

(c) The introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with permits until all discharges of pollutants to waters of the United States are eliminated. (See also § 122.47(b)). This exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other party not leading to treatment works.

(d) Any discharge in compliance with the instructions of an On-Scene Coordinator pursuant to 40 CFR Part 1510 (The National Oil and Hazardous Substances Pollution Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances).

(e) Any introduction of pollutants from non point-source agricultural and silvicultural activities, including runoff from orchards, cultivated crops, pastures, range lands, and forest lands, but not discharges from concentrated animal feeding operations as defined in § 122.23, discharges from concentrated aquatic animal production facilities as defined in § 122.24, discharges to aquaculture projects as defined in § 122.25, and discharges from silvicultural point sources as defined in § 122.27.

(f) Return flows from irrigated agriculture.

(g) Discharges into a privately owned treatment works, except as the Director may otherwise require under § 122.44(m).

§ 122.4 Prohibitions (applicable to State NPDES programs, see § 123.25)

No permit may be issued:

(a) When the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA;

(b) When the applicant is required to obtain a State or other appropriate certification under section 401 of CWA and § 124.53 and that certification has not been obtained or waived;

(c) By the State Director where the Regional Administrator has objected to issuance of the permit under § 123.44;

(d) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States;

(e) When, in the judgment of the Secretary, anchorage and navigation in or on any of the waters of the United States would be substantially impaired by the discharge;

(f) For the discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste;

(g) For any discharge inconsistent with a plan or plan amendment approved under section 208(b) of CWA;

(h) For any discharge to the territorial sea, the waters of the contiguous zone, or the oceans in the following circumstances:

(1) Before the promulgation of guidelines under section 403(c) of CWA (for determining degradation of the waters of the territorial seas, the contiguous zone, and the oceans) unless the Director determines permit issuance to be in the public interest; or

(2) After promulgation of guidelines under section (403(c) of CWA, when insufficient information exists to make a reasonable judgment whether the discharge complies with them.

(i) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by section 301(b)(1)(A) and 301(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the puublic comment period, that:

(1) There are sufficient remaining pollutant load allocations to allow for the descharge; and

(2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards.

§ 122.5 Effect of a permit.

(a) *Applicable to State programs, see § 123.25.* Except for any toxic effluent standards and prohibitions imposed under section 307 of the CWA, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with section 301, 302, 306, 307, 318, 403, and 405 of CWA. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in §§ 122.62 and 122.64.

(b) *Applicable to State programs, See § 123.25.* The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

§ 122.6. Continuation of expiring permits.

(a) *EPA permits.* When EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of a new permit (see § 124.15) if:

(1) The permittee has submitted a timely application under § 122.21 which is a complete (under § 122.21(e)) application for a new permit; and

(2) The Regional Administrator, through no fault of the permittee does not issue a new permit with an effective date under § 124.15 on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints).

(b) *Effect.* Permits continued under this section remain fully effectively and enforceable.

(c) *Enforcement.* When the permittee is not in compliance with the conditions of the expiring or expired permit the Regional Administrator may choose to do any or all of the following:

(1) Initiate enforcement action based upon the permit which has been continued;

(2) Issue a notice of intent to deny the new permit under § 124.6. If the permit is denied, the owner or oprator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) Issue a new permit under Part 124 with appropriate conditions; or

(4) Take other actions authorized by these regulations.

(d) *State continuation.* (1) An EPA-issued permit does not continue in force beyond its expiration date under Federal law if at that time a State is the permitting authority. States authorized to administer the NPDES program may continue either EPA or State-issued permits until the effective date of the new permits, if State law allows. Otherwise, the facility or activity is operating without a permit from the time of expiration of the old permit to the effective date of the State-issued new permit.

§ 122.7 Confidentiality of information.

(a) In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

(b) *Applicable to State programs, see § 123.25.* Claims of confidentiality for the following information will be denied:

(1) The name and address of any permit applicant or permittee;

(2) Permit applications, permits, and effluent data.

(c) *Applicable to State programs, see § 123.25.* Information required by NPDES application forms provided by the Director under § 122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

Subpart B—Permit Application and Special NPDES Program Requirements

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

(a) *Duty to apply.* Any person who discharges or proposes to discharge pollutants and who does not have an effective permit, except persons covered by general permits under § 122.28, excluded under § 122.3, or a user of a privately owned treatment works unless the Director requires otherwise under § 122.44(m), shall submit a complete application (which shall include a BMP program if necessary under 40 CFR 125.102) to the Director in accordance with this section and Part 124.

(b) *Who applies?* When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

(c) *Time to apply.* Any person proposing a new discharge shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 180 day requirement to avoid delay. See also paragraph (k) of this section.

(d) *Duty to reapply.* (1) Any POTW with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(2) All other permittees with currently effective permits shall submit a new application in accordance with the table below:

Permit expires	Application requirement	Deadline for submission
On or before Nov. 30, 1980	(1) If applicant has submitted new application before Apr. 30, 1980 new application [1] is not required.	Not applicable
	(2) If applicant has not submitted new application before Apr. 30, 1980, applicant must submit new application.[1]	Date on which permit expires.[2]
Dec. 1, 1980–May 31, 1981	New application [1]	90 days before permit expires.[2] [3]
On or after June 1, 1981	New application [1]	180 days before [3] permit expires.

[1] The new application requirements are set forth in paragraphs (f), (g), and (h) this section. Applicants for EPA-issued permits must use Forms 1 and either 2b or 2c of EPA's consolidated permit application forms to apply under those sections.

[2] Applicants may request additional time for the submission of information required by paragraphs (g)(7), (9) and (10) of this section. The request must be in writing and must state the reasons the information could not be submitted on time. Based upon this request, the Director may extend the time to submit all or some of the information up to six months beyond the deadline for submission or June 30, 1981, whichever is earlier.

[3] The Director may grant permission to submit an application later than this date, but no later than the expiration date of the permit.

[See Note 5.] .

(e) *Completeness.* The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity. For EPA administered NPDES programs, an application which is reviewed under § 124.3 is complete when the Director receives either a complete application or the information listed in a notice of deficiency.

(f) *Information requirements.* All applicants for NPDES permits shall provide the following information to the Director, using the application form provided by the Director (additional information required of applicants is set forth in paragraphs (g)–(k)) of this section.

(1) The activities conducted by the applicant which require it to obtain an NPDES permit.

(2) Name, mailing address, and location of the facility for which the application is submitted.

(3) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(5) Whether the facility is located on Indian lands.

(6) A listing of all permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under RCRA.

(ii) UIC program under SDWA.

(iii) NPDES program under CWA.

(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(v) Nonattainment program under the Clean Air Act.

(vi) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(viii) Dredge or fill permits under section 404 of CWA.

(ix) Other relevant environmental permits, including State permits.

(7) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its

hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

(8) A brief description of the nature of the business.

(g) *Application requirements for existing manufacturing, commercial, mining, and silvicultural dischargers.* Existing manufacturing, commercial, mining, and silvicultural dischargers applying for NPDES permits shall provide the following information to the Director, using application forms provided by the Director:

(1) *Outfall location.* The latitude and longitude to the nearest 15 seconds and the name of the receiving water.

(2) *Line Drawing.* A line drawing of the water flow through the facility with a water balance, showing operations contributing wastewater to the effluent and treatment units. Similar processes, operations, or production areas may be indicated as a single unit, labeled to correspond to the more detailed identification under paragraph (g)(3) of this section. The water balance must show approximate average flows at intake and discharge points and between units, including treatment units. If a water balance cannot be determined (for example, for certain mining activities), the applicant may provide instead a pictorial description of the nature and amount of any sources of water and any collection and treatment measures.

(3) *Average flows and treatment.* A narrative identification of each type of process, operation, or production area which contributes wastewater to the effluent for each outfall, including process wastewater, cooling water, and stormwater runoff; the average flow which each process contributes; and a description of the treatment the wastewater receives, including the ultimate disposal of any solid or fluid wastes other than by discharge. Processes, operations or production areas may be described in general terms (for example, "dye-making reactor", "distillation tower".) For a privately owned treatment works, this information shall include the identity of each user of the treatment works.

(4) *Intermittent flows.* If any of the discharges described in paragraph (g)(3) of this section are intermittent or seasonal, a description of the frequency, duration and flow rate of each discharge occurrence (except for stormwater runoff, spillage or leaks).

(5) *Maximum production.* If an effluent guideline promulgated under section 304 of CWA applies to the applicant and is expressed in terms of production (or other measure of operation), a reasonable measure of the applicant's actual production reported in the units used in the applicable effluent guideline. The reported measure must reflect the actual production of the facility as required by § 122.45(b)(2).

(6) *Improvements.* If the applicant is subject to any present requirements or compliance schedules for construction, upgrading or operation of waste treatment equipment, an identification of the abatement requirement, a description of the abatement project, and a listing of the required and projected final compliance dates.

(7) *Effluent characteristics.* Information on the discharge of pollutants specified in this paragraph. When "quantitative data" for a pollutant is required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR Part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also applies to the substantially identical outfalls. The requirements in paragraphs (g)(7) (iii) and (iv) of this section that an applicant must provide quantitative data for certain pollutants known or believed to be present does not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, and fecal coliform. For all other pollutants, 24-hour composite samples must be used.

An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

(i)(A) Every applicant must report quantitative data for every outfall for the following pollutants:

Biochemial Oxygen Demand (BOD_5)
Chemical Oxygen Demand
Total Organic Carbon
Total Suspended Solids
Ammonia (as N)
Temperature (both winter and summer)
pH

(B) At the applicant's request, the Director may waive the reporting requirements for one or more of the pollutants listed in paragraph (g)(7)(i)(A) of this section.

(ii) Each applicant with processes in one or more primary industry category (see Appendix A to Part 122) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

(A) The organic toxic pollutants in the fractions designated in Table I of Appendix D of this Part for the applicant's industrial category or categories unless the applicant qualifies as a small business under paragraph (d)(8) of this section. Table II of Appendix D of this Part lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure which uses gas chromotography/mass spectrometry. A determination that an applicant falls within a particular industrial category for the purposes of selecting fractions for testing is not conclusive as to the applicant's inclusion in that category for any other purposes. [See Notes 2, 3, and 4 of this section.]

(B) The pollutents listed in Table III of Appendix D of this Part (the toxic metals, cyanide, and total phenols).

(iii) Each applicant must report for each outfall quantitative data for the following pollutants, if the applicant knows or has reason to believe that the pollutant is discharged from the outfall:

(A) All pollutants listed in Table II or Table III of Appendix D of this Part (the toxic pollutants) for which quantitative data is not otherwise required under paragraph (g)(7)(ii) of this section except that an applicant qualifying as a small business under paragraph (g)(8) of this section is not required to analyze for the pollutants listed in Table II of Appendix D of this Part (the organic toxic pollutants).

(B) All pollutants in Table IV of Appendix D of this Part (certain conventional and nonconventional pollutants).

(iv) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in Table V of Appendix D of this Part (certain hazardous substances and asbestos) is discharged from each outfall. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant.

(v) Each applicant must report qualitative data, generated using a screening procedure not calibrated with analytical standards, for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) if it:

(A) Uses or manufactures 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); or

(B) Knows or has reason to believe that TCDD is or may be present in an effluent.

(8) *Small business exemption.* An applicant which qualifies as a small business under one of the following criteria is exempt from the requirements in paragraphs (g)(7)(ii)(A) or (g)(7)(iii)(A) of this section to submit quantitative data for the pollutants listed in Table II of Appendix D of this Part (the organic toxic pollutants):

(i) For coal mines, a probable total annual production of less than 100,000 tons per year.

(ii) For all other applicants, gross total annual sales averaging less than $100,000 per year (in second quarter 1980 dollars).

(9) *Used or manufactured toxics.* A listing of any toxic pollutant which the applicant does or expects that it will during the next 5 years use or manufacture as an intermediate or final product or byproduct.

(10) *Potential discharges.* A description of the expected levels of and the reasons for any discharges of pollutants which the applicant knows or has reason to believe will exceed two times the values reported in paragraph (g)(7) of this section over the next 5 years.

(11) *Biological toxicity tests.* An identification of any biological toxicity tests which the applicant knows or has reason to believe have been made within the last 3 years on any of the applicant's discharges or on a receiving water in relation to a discharge.

(12) *Contract analyses.* If a contract laboratory or consulting firm performed any of the analyses required by paragraph (g)(7) of this section, the identity of each laboratory or firm and the analyses performed.

(13) *Additional information.* In addition to the information reported on the application form, applicants shall provide to the Director, at his or her request, such other information as the Director may reasonably require to assess the discharges of the facility and to determine whether to issue an NPDES permit. The additional information may include additional quantitative data and bioassays to assess the relative toxicity of discharges to aquatic life and requirements to determine the cause of the toxicity.

(h) *Application requirements for new and existing concentrated animal feeding operations and aquatic animal production facilities.* New and existing concentrated animal feeding operations (defined in § 122.23) and concentrated aquatic animal production facilities (defined in § 122.24) shall provide the following information to the Director, using the application form provided by the Director:

(1) For concentrated animal feeding operations:

(i) The type and number of animals in open confinement and housed under roof.

(ii) The number of acres used for confinement feeding.

(iii) The design basis for the runoff diversion and control system, if one exists, including the number of acres of contributing drainage, the storage capacity, and the design safety factor.

(2) For concentrated aquatic animal production facilities:

(i) The maximum daily and average monthly flow from each outfall.

(ii) The number of ponds, raceways, and similar structures.

(iii) The name of the receiving water and the source of intake water.

(iv) For each species of aquatic animals, the total yearly and maximum harvestable weight.

(v) The calendar month of maximum feeding and the total mass of food fed during that month.

(i) *Application requirements for new and existing POTWs.* [Reserved.]

(j) *Application requirements for new sources and new dischargers.* [Reserved.]

(k) *Special provisions for applications from new sources.* (1) The owner or operator of any facility which may be a new source(as defined in § 122.2) and which is located in a State without an approved NPDES program must comply with the provisions of this paragaraph.

(2)(i) Before beginning any on-site construction as defined in § 122.29, the owner or operator of any facility which may be a new source must submit information to the Regional Administrator so that he or she can determine if the facility is a new source. The Regional Administrator may request any additional information needed to determine whether the facility is a new source.

(ii) The Regional Administrator shall make an initial determination whether the facility is a new source within 30 days of receiving all necessary information under paragraph (k)(2)(i) of this section.

(3) The Regional Administrator shall issue a public notice in accordance with § 124.10 of the new source determination under paragraph (k)(2) of this section. If the Regional Administrator has determined that the facility is a new source, the notice shall state that the applicant must comply with the environmental review requirements of 40 CFR 6.600 *et seq.*

(4) Any interested person may challenge the Regional Administrator's initial new source determination by requesting an evidentiary hearing under Subpart E of Part 124 within 30 days of issuance of the public notice of the initial determination. The Regional Administrator may defer the evidentiary hearing on the determination until after a final permit decision is made, and consolidate the hearing on the determination with any hearing on the permit.

(l) *Variance requests by non-POTWs.* A discharger which is not a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory or regulatory provisions within the times specified in this paragraph:

(1) *Fundamentally different factors.* A request for a variance based on the presence of "fundamentally different factors" from those on which the effluent limitations guideline was based, shall be made by the close of the public comment period under § 124.10. The request shall explain how the requirements of § 124.13 and 40 CFR Part 125, Subpart D have been met.

(2) *Non-conventional pollutants.* A request for a variance from the BAT requirements for CWA section 301(b)(2)(F) pollutants (commonly called "non-conventional" pollutants) pursuant to section 301(c) of CWA because of the economic capability of the owner or operator, or pursuant to section 301(g) of CWA because of certain environmental considerations, when those requirements were based on effluent limitation guidelines, must be made by:

(i) Submitting an initial request to the Regional Administrator, as well as to the State Director if applicable, stating the name of the discharger, the permit number, the outfall number(s), the applicable effluent guideline, and whether the discharger is requesting a section 301(c) or section 301(g) modification or both. This request must have been filed not later than:

(A) September 25, 1978, for a pollutant which is controlled by a BAT effluent limitation guideline promulgated before December 27, 1977; or

(B) 270 days after promulgation of an applicable effluent limitation guideline for guidelines promulgated after December 27, 1977; and

(ii) Submitting a completed request no later than the close of the public comment period under § 124.10 demonstrating that the requirements of § 124.13 and the applicable requirements of Part 125 have been met.

(iii) Requests for variance from effluent limitations not based on effluent limitation guidelines need only comply with paragraph (l)(2)(ii) of this section and need not be preceded by an initial request under paragraph (l)(2)(i) of this section.

(3) *Delay in construction of POTW.* An extension under CWA section 301(i)(2) of the statutory deadlines in sections 301(b)(1)(A) or (b)(1)(C) of CWA based on delay in completion of a POTW into which the source is to discharge must have been requested on or before June 26, 1978, or 180 days after the relevant POTW requested an extension under paragraph (m)(2) of this section, whichever is later, but in no event may this date have been later than December 25, 1978. The request shall explain how the requirements of 40 CFR Part 125, Subpart J have been met.

(4) *Innovative technology.* An extension under CWA section 301(k) from the statutory deadline of section 301(b)(2)(A) for best available technology based on the use of innovative technology may be requested no later than the close of the public comment period under § 124.10 for the discharger's initial permit requiring compliance with section 301(b)(2)(A). The request shall demonstrate that the requirements of § 124.13 and Part 125 Subpart C have been met.

(5) *Water quality related effluent limitations.* A modification under section 302(b)(2) of requirements under section 302(a) for achieving water quality related effluent limitations may be requested no later than the close of the public comment period under § 124.10 on the permit from which the modification is sought.

(6) *Thermal discharges.* A variance under CWA section 316(a) for the thermal component of any discharge must be filed with a timely application for a permit under this section, except that if thermal effluent limitations are established under CWA Section 402(a)(1) or are based on water quality standards the request for a variance may be filed by the close of the public comment period under § 124.10. A copy of the request as required under 40 CFR Part 125, Subpart H, shall be sent simultaneously to the appropriate State or interstate certifying agency as required under 40 CFR Part 125. (See § 124.65 for special procedures for section 316(a) thermal variances.)

(m) *Variance requests by POTWs.* A discharger which is a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory provisions as specified in this paragraph:

(1) *Discharges into marine waters.* A request for a modification under CWA section 301(h) of requirements of CWA section 301(b)(1)(B) for discharges into marine waters must be filed in accordance with the requirements of 40 CFR Part 125, Subpart G.

(2) *Delay in construction.* An extension under CWA section 301(i)(1) of the statutory deadlines in CWA section 301(b)(1)(B) or (b)(1)(C) based on delay in the construction of the POTW must have been requested on or before June 26, 1978.

(3) *Water quality based effluent limitation.* A modification under CWA section 302(b)(2) of the requirements under section 302(a) for achieving water quality based effluent limitations shall be requested no later than the close of the public comment period under § 124.10 on the permit from which the modification is sought.

(n) *Expedited variance procedures and time extensions.* (1) Notwithstanding the time requirements in paragraphs (l) and (m) of this section, the Director may notify a permit applicant before a draft permit is issued under § 124.6 that the draft permit will likely contain limitations which are eligible for variances. In the notice the Director may require the applicant as a condition of consideration of any potential variance request to submit a request explaining how the requirements of 40 CFR Part 125 applicable to the variance have been met and may require its submission within a specified reasonable time after receipt of the notice. The notice may be sent before the permit application has been submitted. The draft or final permit may contain the alternative limitations which may become effective upon final grant of the variance.

(2) A discharger who cannot file a complete request required under paragraph (l)(2)(ii) or (l)(2)(iii) of this section may request an extension. The extension may be granted or denied at the discretion of the Director. Extensions shall be no more than 6 months in duration.

(o) *Recordkeeping.* Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this section for a period of at least 3 years from the date the application is signed.

[Note 1.—At 46 FR 2046, Jan. 8, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(ii)(A) and the corresponding portions of Item V–C of the NPDES application Form 2c as they apply to coal mines. This revision continues that suspension.]

[Note 2.—At 46 FR 22585, Apr. 20, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(ii)(A) and the corresponding portions of Item V–C of the NPDES application Form 2c as they apply to:

1. Testing and reporting for all four organic fractions in the Greige Mills Subcategory of the Textile Mills industry (Subpart C—Low water use processing of 40 CFR Part 410), and testing and reporting for the pesticide fraction in all other subcategories of this industrial category.

2. Testing and reporting for the volatile, base/neutral and pesticide fractions in the Base and Precious Metals Subcategory of the Ore Mining and Dressing industry (Subpart B of 40 CFR Part 440), and testing and reporting for all four fractions in all other subcategories of this industrial category.

3. Testing and reporting for all four GC/MS fractions in the Porcelain Enameling industry.

This revision continues that suspension.]

[Note 3.—At 46 FR 35090, July 1, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(ii)(A) and the corresponding portions of Item V–C of the NPDES application Form 2c as they apply to:

1. Testing and reporting for the pesticide fraction in the Tall Oil Rosin Subcategory (Subpart D) and Rosin-Based Derivatives Subcategory (Subpart F) of the Gum and Wood Chemicals industry (40 CFR Part 454), and testing and reporting for the pesticide and base-neutral fractions in all other subcategories of this industrial category.

2. Testing and reporting for the pesticide fraction in the Leather Tanning and Finishing, Paint and Ink Formulation, and Photographic Supplies industrial categories.

3. Testing and reporting for the acid, base/neutral and pesticide fractions in the Petroleum Refining industrial category.

4. Testing and reporting for the pesticide fraction in the Papergrade Sulfite subcategories (Subparts J and U) of the Pulp and Paper industry (40 CFR Part 430); testing and reporting for the base/neutral and pesticide fractions in the following subcategories: Deink (Subpart Q), Dissolving Kraft (Subpart F), and Paperboard from Waste Paper (Subpart E); testing and reporting for the volatile, base/neutral and pesticide fractions in the following subcategories: BCT Bleached Kraft (Subpart H), Semi-Chemical (Subparts B and C), and Nonintegrated Fine Papers (Subpart R); and testing and reporting for the acid, base/

neutral, and pesticide fractions in the following subcategories: Fine Bleached Kraft (Subpart I), Dissolving Sulfite Pulp (Subpart K), Groundwood-Fine Papers (Subpart O), Market Bleached Kraft (Subpart G), Tissue from Wastepaper (Subpart T), and Nonintegrated-Tissue Papers (Subpart S).

5. Testing and reporting for the base/neutral fraction in the Once-Through Cooling Water, Fly Ash and Bottom Ash Transport Water process wastestreams of the Steam Electric Power Plant industrial category.

This revision continues that suspension.]

[Note 4.—At 46 FR 36703, July 15, 1981, the Environmental Protection Agency suspended until further notice portions of § 122.21(d)(2), as set forth below:

1. Footnote (2) to the table in § 122.21(d)(2).

2. In footnote (3) to the table in 40 CFR § 122.21(d)(2), the portion which restricts the Director's authority to extend the application deadline no later than the permit expiration date as that restriction applies to the submission of data required by § 122.21(d) (7), (9), and (10). Thus, during the suspension, footnote (3) effectively reads as follows:

3. The Director may grant permission to submit an application later than this date but (except for information required by paragraph (d) (7), (9), and (10) of this section) no later than the expiration date of the permit.

This revision continues that suspension.]

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

(a) *Applications.* All permit applications shall be signed as follows:

(1) *For a corporation:* by a principal executive officer of at least the level of vice-president;

(2) *For a partnership or sole proprietorship:* by a general partner or the proprietor, respectively; or

(3) *For a municipality, State, Federal, or other public agency:* by either a principal executive officer or ranking elected official.

(b) *Reports.* All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and

(3) The written authorization is submitted to the Director.

(c) *Changes to authorization.* If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) *Certification.* Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

§ 122.23 Concentrated animal feeding operations (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Concentrated animal feeding operations are point sources subject to the NPDES permit program.

(b) *Definitions.* (1) "Animal feeding operation" means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

(i) Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and

(ii) Crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

(2) Two or more animal feeding operations under common ownership are considered, for the purposes of these regulations, to be a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.

(3) "Concentrated animal feeding operation" means an "animal feeding operation" which meets the criteria in Appendix B of this Part, or which the Director designates under paragraph (c) of this section.

(c) *Case-by-case designation of concentrated animal feeding operations.* (1) The Director may designate any animal feeding operation as a concentrated animal feeding operation upon determining that it is a significant contributor of pollution to the waters of the United States. In making this designation the Director shall consider the following factors:

(i) The size of the animal feeding operation and the amount of wastes reaching waters of the United States;

(ii) The location of the animal feeding operation relative to waters of the United States;

(iii) The means of conveyance of animal wastes and process waste waters into waters of the United States;

(iv) The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes and process waste waters into waters of the United States; and

(v) Other relevant factors.

(2) No animal feeding operation with less than the numbers of animals set forth in Appendix B of this Part shall be designated as a concentrated animal feeding operation unless:

(i) Pollutants are discharged into waters of the United States through a manmade ditch, flushing system, or other similar manmade device; or

(ii) Pollutants are discharged directly into waters of the United States which originate outside of the facility and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

(3) A permit application shall not be required from a concentrated animal feeding operation designated under this paragraph until the Director has conducted an on-site inspection of the operation and determined that the operation should and could be regulated under the permit program.

§ 122.24 Concentrated aquatic animal production facilities (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Concentrated aquatic animal production facilities, as defined in this section, are point sources subject to the NPDES permit program.

(b) *Definition.* "Concentrated aquatic animal production facility" means a hatchery, fish farm, or other facility which meets the criteria in Appendix C of this Part, or which the Director designates under paragraph (c) of this section.

(c) *Case-by-case designation of concentrated aquatic animal production facilities.* (1) The Director may designate any warm or cold water aquatic animal production facility as a concentrated aquatic animal production facility upon determining that it is a significant contributor of pollution to waters of the United States. In making this designation the Director shall consider the following factors:

(i) The location and quality of the receiving waters of the United States;

(ii) The holding, feeding, and production capacities of the facility;

(iii) The quantity and nature of the pollutants reaching waters of the United States; and

(iv) Other relevant factors.

(2) A permit application shall not be required from a concentrated aquatic animal production facility designated under this paragraph until the Director has conducted on-site inspection of the facility and has determined that the facility should and could be regulated under the permit program.

§ 122.25 Aquaculture projects (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Discharges into aquaculture projects, as defined in this section, are subject to the NPDES permit program through section 318 of CWA, and in accordance with 40 CFR Part 125, Subpart B.

(b) *Definitions.* (1) "Aquaculture project" means a defined managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater, estuarine, or marine plants or animals.

(2) "Designated project area" means the portions of the waters of the United States within which the permittee or permit applicant plans to confine the cultivated species, using a method or plan or operation (including, but not limited to, physical confinement) which, on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth attributable to the discharge of pollutants, and be harvested within a defined geographic area.

§ 122.26 Separate storm sewers (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Separate storm sewers, as defined in this section are point sources subject to the NPDES permit program. Separate storm sewers may be permitted either individually or under a general permit (See § 122.28). An NPDES permit for discharges into waters of the United States from a separate storm sewer covers all convenyances which are a part of that separate storm sewer system, even though there may be several owners or operators of these conveyances. However, discharges into separate storm sewers from point sources which are not part of the separate storm sewer systems may also require a permit.

(b) *Definition.* (1) "Separate storm sewer" means a conveyance or system of conveyances (including pipes, conduits, ditches, and channels) primarily used for collecting and conveying storm water runoff and which is either:

(i) Located in an urbanized area as designated by the Bureau of the Census according to the criteria in 39 FR 15202 (May 1, 1974); or

(ii) Not located in an urbanized area but designated under paragraph (c) of this section.

(2) Except as provided in paragraph (b)(3) of this section, a conveyance or system of conveyances operated primarily for the purpose of collecting and conveying storm water runoff which is not located in an urbanized area and has not been designated by the Director under paragraph (c) of this section is not considered a point source and is not subject to the provisions of this section.

(3) Conveyances which discharge process wastewater or storm water runoff contaminated by contact with wastes, raw materials, or pollutant-contaminated soil, from lands or facilities used for industrial or commercial activities, into waters of the United States or into separate storm sewers are point sources that must obtain NPDES permits but are not separate storm sewers.

(4) Whether a system of conveyances is or is not a separate storm sewer for purposes of this section shall have no bearing on whether the system is eligible for funding under Title II of CWA; see 40 CFR 35.925–21.

(c) *Case-by-case designation of separate storm sewers.* The Director may designate a storm sewer not located in an urbanized area as a separate storm sewer. This designation may be made to the extent allowed or required by EPA promulgated effluent guidelines for point sources in the separate storm sewer category; or when:

(1) A Water Quality Management plan under section 208 of CWA which contains requirements applicable to such point sources is approved; or

(2) The Director determines that a storm sewer is a significant contributor of pollution to the waters of the United States. In making this determination the Director shall consider the following factors:

(i) The location of the discharge with respect to waters of the United States.

(ii) The size of the discharge;

(iii) The quantity and nature of the pollutants reaching waters of the United States, and

(iv) Other relevant factors.

§ 122.27 Silvicultural activities (applicable to State NPDES programs, see § 123.25).

(a) *Permit requirement.* Silvicultural point sources, as defined in this section, as point sources subject to the NPDES permit program.

(b) *Definitions.* (1) "Silvicultural point source" means any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. The term does not include non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA section 404 permit (See 33 CFR 209.120 and Part 233).

(2) "Rock crushing and gravel washing facilities" means facilities which process crushed and broken stone, gravel, and riprap (See 40 CFR Part 436, Subpart B, including the effluent limitations guidelines).

(3) "Log sorting and log storage facilities" means facilities whose discharges result from the holding of unprocessed wood, for example, logs or roundwood with bark or after removal of bark held in self-contained bodies of water (mill ponds or log ponds) or stored on land where water is applied intentionally on the logs (wet decking). (See 40 CFR Part 429, Subpart I, including the effluent limitations guidelines).

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

(a) *Coverage.* The Director may issue a general permit in accordance with the following:

(1) *Area.* The general permit shall be written to cover a category of discharges described in the permit under paragraph (a)(2) of this section, except those covered by individual permits, within a geographic area. The area shall correspond to existing geographic or political boundaries, such as:

(i) Designated planning areas under sections 208 and 303 of CWA;

(ii) Sewer districts or sewer authorities;

(iii) City, county, or State political boundaries;

(iv) State highway systems;

(v) Standard metropolitan statistical areas as defined by the Office of Management and Budget;

(vi) Urbanized areas as designated by the Bureau of the Census according to criteria in 30 FR 15202 (May 1, 1974); or

(vii) Any other appropriate division or combination of boundaries.

(2) *Sources.* The general permit shall be written to regulate, within the area described in paragraph (a)(1) of this section, either:

(i) Separate storm sewers; or

(ii) A category of minor point sources other than separate storm sewers if the sources all:

(A) Involve the same or substantially similar types of operations;

(B) Discharge the same types of wastes;

(C) Require the same effluent limitations or operating conditions;

(D) Require the same or similar monitoring; and

(E) In the opinion of the Director, are more appropriately controlled under a general permit than under individual permits.

(b) *Administration.* (1) *In general.* General permits may be issued, modified, revoked and reissued, or terminated in accordance with applicable requirements of Part 124 or corresponding State regulations. Special procedures for issuance are found at § 123.44 for States and § 124.58 for EPA.

(2) *Requiring an individual permit.* (i) The Director may require any person authorized by a general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph. Cases where an individual NPDES permit may be required include the following:

(A) The discharge(s) is a significant contributor of pollution as determined by the factors set forth at § 122.28(c)(2);

(B) The discharger is not in compliance with the conditions of the general NPDES permit;

(C) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;

(D) Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;

(E) A Water Quality Management plan containing requirements applicable to such point sources is approved; or

(F) The requirements of paragraph (a) of this section are not met.

(ii) *For EPA issued general permits only,* the Regional Administrator may require any owner or operator authorized by a general permit to apply for an individual NPDES permit as provided in paragraph (b)(2)(i) of this section, only if the owner or operator has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time for the owner or operator to file the application, and a statement that on the effective date of the individual NPDES permit the general permit as it applies to the individual permittee shall automatically terminate. The Director may grant additional time upon request of the applicant.

(iii) Any owner or operator authorized by a general permit may request to be excluded from the coverage of the general permit by applying for an individual permit. The owner or operator shall submit an application under § 122.21, with reasons supporting the request, to the Director no later than 90 days after the publication by EPA of the general permit in the **Federal Register** or the publication by a State in accordance with applicable State law. The request shall be processed under Part 124 or applicable State procedures. The request shall be granted by issuing of any individual permit if the reasons cited by the owner or operator are adequate to support the request.

(iv) When an individual NPDES permit is issued to an owner or operator otherwise subject to a general NPDES permit, the applicability of the general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit.

(v) A source excluded from a general permit solely because it already has an individual permit may request that the individual permit be revoked, and that it be covered by the general permit. Upon revocation of the individual permit, the general permit shall apply to the source.

§ 122.29 New sources and new dischargers.

(a) *Definitions.*

(1) "New source" and "new discharger" are defined in § 122.2. [See Note 2.]

(2) "Source" means any building, structure, facility, or installation from which there is or may be a discharge of pollutants.

(3) "Existing source" means any source which is not a new source or a new discharger.

(4) "Site" is defined in § 122.2;

(5) "Facilities or equipment" means buildings, structures, process or production equipment or machinery which form a permanent part of the new source and which will be used in its operation, if these facilities or equipment are of such value as to represent a substantial commitment to construct. It excludes facilities or equipment used in connection with feasibility, engineering, and design studies regarding the source or water pollution treatment for the source.

(b) *Criteria for new source determination.* (1) The following construction activities result in a new source:

(i) Construction of a source on a site at which no other source is located, or

(ii) Construction on a site at which another source is located of a building, structure, facility, or installation from which there is or may be a discharge of pollutants if:

(A) the process or production equipment that causes the discharge of pollutants from the existing source is totally replaced by this construction, or

(B) the construction results in a change in the nature or quantity of pollutants discharged.

(2) Construction on a site at which an existing source is located results in a modification subject to § 122.15 rather than a new source if the construction does not create a new building, structure, facility, or installation from which there is or may be a discharge of pollutants but otherwise alters, replaces, or adds to existing process or production equipment.

(3) Construction of a new source as defined as § 122.3 has commenced if the owner or operator has: (i) Begun, or caused to begin as part a continuous on-site construction program:

(A) Any placement, assembly, or installation of facilities or equipment; or

(B) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, of facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(ii) Entered a binding contractual obligation for the purchase of facilities or equipment which are intended to be used on its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. [See Note 1 of this section.]

(c) *Requirement for an Environmental Impact Statement.* (1) The issuance of an NPDES permit to new source:

(i) By EPA may be a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 33 U.S.C. 4321 *et seq.* and is subject to the environmental review provisions of NEPA as set out in 40 CFR Part 6, Subpart F. EPA will determine whether an Environmental Impact Statement (EIS) is required under § 122.21(k) (special provisions for applications from new sources) and 40 CFR Part 6, Subpart F;

(ii) By an NPDES approved State is not a Federal action and therefore does not require EPA to conduct an environmental review.

(2) An EIS prepared under this paragraph shall include a recommendation either to issue or deny the permit.

(i) If the recommendation is to deny the permit, the final EIS shall contain the reasons for the recommendation and list those measures, if any, which the applicant could take to cause the recommendation to be changed;

(ii) If the recommendation is to issue the permit, the final EIS shall recommend the actions, if any, which the permittee should take to prevent or minimize any adverse environmental impacts;

(3) The Regional Administrator shall issue, condition, or deny the new source NPDES permit following a complete evaluation of any significant beneficial and adverse environmental impacts and a review of the recommendations contained in the EIS or finding of no significant impact.

(4)(i) No on-site construction of a new source for which an EIS is required shall commence before final Agency action in issuing a final permit incorporating appropriate EIS-related requirements, or before execution by the applicant of a legally binding written agreement which requires compliance with all such requirements, unless such construction is determined by the Regional Administrator not to cause significant or irreversible adverse environmental impact. The provisions of any agreement entered into under this paragraph shall be incorporated as coditions of the NPDES permit when it is issued.

(ii) No on-site construction of a new source for which an EIS is not required shall commence until 30 days after issuance of a finding of no significant impact, unless the construction is determined by the Regional Administrator not to cause significant or irreversible adverse environmental impacts.

(5) The permit applicant must notify the Regional Administrator of any on-site construction which begins before the times specified in paragrah (c)(4) of this section. If on-site construction begins in violation of this paragraph, the Regional Administrator shall advise the owner or operator that it is proceeding with construction at its own risk, and that such construction activities constitute grounds for denial of a permit. The Regional Administrator may seek a court order to enjoin construction in violation of this paragraph.

(d) *Effect of compliance with new source performance standards.* (The provisions of this paragraph do not apply to existing sources which modify their pollution control facilities or construct new pollution control facilities and achieve performance standards, but which are neither new sources or new dischargers or otherwise do not meet the requirements of this paragraph.)

(1) Except as provided in paragraph (d)(2) of this section, any new discharger, the construction of which commenced after October 18, 1972, or new source which meets the applicable promulgated new source performance standards before the commencement of discharge, may not be subject to any more stringent new source performance standards or to any more stringent technology-based standards under section 301(b)(2) of CWA for the soonest ending of the following periods:

(i) Ten years from the date that construction is completed;

(ii) Ten years from the date the source begins to discharge process or other nonconstruction related wastewater; or

(iii) The period of depreciation or amortization of the facility for the purposes of section 167 or 169 (or both) of the Internal Revenue Code of 1954.

(2) The protection from more stringent standards of performance afforded by paragraph (d)(1) of this section does not apply to:

(i) Additional or more stringent permit conditions which are not technology based; for example, conditions based on water quality standards, or toxic effluent standards or prohibitions under section 307(a) of CWA; or

(ii) Additional permit conditions in accordance with § 125.3 controlling toxic pollutants or hazardous substances which are not controlled by new source performance standards. This includes permit conditions controlling pollutants other than those identified as toxic pollutants or hazardous substances when control of these pollutants has been specifically identified as the method to control the toxic pollutants or hazardous substances.

(3) When an NPDES permit issued to a source with a "protection period" under paragraph (d)(1) of this section will expire on or after the expiration of the protection period, that permit shall require the owner or operator of the source to comply with the requirements of section 301 and any other then applicable requirements of CWA immediately upon the expiration of the protection period. No additional period for achieving compliance with these requirements may be allowed except when necessary to achieve compliance with requirements promulgated less than 3 years before the expiration of the protection period.

(4) The owner or operator of a new source, a new discharger which commenced discharge after August 13, 1979, or a recommencing discharger shall install and have in operating condition, and shall "start-up" all pollution control equipment required to meet the conditions of its permits before beginning to discharge. Within the shortest feasible time (not to exceed 90 days), the owner or operator must meet all permit conditions.

(5) After the effective date of new source performance standards, it shall be unlawful for any owner or operator of any new source to operate the source in violation of those standards applicable to the source.

[**Note 1.**—§ 122.29, paragraphs (b)(1) and (2) were suspended until further notice at 45 FR 59318, Sept. 9, 1980.]

[**Note 2.**—At 45 FR 68391, Oct. 15, 1980, effective Oct. 15, 1980, the Environmental Protection Agency suspended until further notice the NPDES "new discharger" definition as it applies to offshore mobile drilling rigs operating in offshore areas adjacent to the Gulf Coast, Atlantic Coast, California and Alaska, except for the Flower Garden area in the Gulf of Mexico and other areas identified as environmentally sensitive by the Bureau of Land Management.]

Subpart C—Permit Conditions

§ 122.41 Conditions applicable to all permits (applicable to State programs, see § 123.25).

The following conditions apply to all NPDES permits. Additional conditions applicable to NPDES permits are in § 122.42. All conditions applicable to NPDES permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.

(a) *Duty to comply.* The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the

Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a civil penalty not to exceed $100,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307 or 308 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

(b) *Duty to reapply.* If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) *Duty to halt or reduce activity.* It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost.

(d) *Duty to mitigate.* The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

(e) *Proper operation and maintenance.* The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems *only* when necessary to achieve compliance with the conditions of the permit.

(f) *Permit actions.* This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(g) *Property rights.* This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) *Duty to provide information.* The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

(i) *Inspection and entry.* The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

(j) *Monitoring and records.* (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(k) *Signatory requirement.* (1) All applications, reports, or information submitted to the Director shall be signed and certified. (See § 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(l) *Reporting requirements.* (1) *Planned changes.* The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) *Anticipated noncompliance.* The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See § 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

(ii) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

(5) *Compliance schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) *Twenty-four hour reporting.* (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becames aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See § 122.41(g).

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See § 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph (l)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) *Other noncompliance.* The permittee shall report all instances of noncompliance not reported under paragraphs (l) (4), (5), and (6) of this section, at the time monitoring reports are sumbitted. The reports shall contain the information listed in paragraph (l)(6) of this section.

(m) *Bypass.* (1) *Definitions.* (i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) *Bypass not exceeding limitations.* The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this section.

(3) *Notice.* (i) *Anticipated bypass.* If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass as required in paragraph (l)(6) of this section (24-hour notice).

(4) *Prohibition of bypass.* (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) *Upset.* (1) *Definition.* "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) *Conditions necessary for a demonstration of upset.* A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the specific cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph (1)(6)(ii)(B) of this section (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) *Burden of proof.* In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

The following conditions, in addition to those set forth in § 122.41, apply to all NPDES permits within the categories specified below:

(a) *Existing manufacturing, commercial, mining, and silvicultural dischargers.* In addition to the reporting requirements under § 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 $\mu g/l$);

(ii) Two hundred micrograms per liter (200 $\mu g/l$) for acrolein and acrylonitrile; five hundred micrograms per liter (500 $\mu g/l$) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with § 122.21 (g)(7) or (g)(10); or

(iv) The level established by the Director in accordance with § 122.44(f).

(2) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application under § 122.21(g)(9).

(b) *Publicly owned treatment works.* All POTWs must provide adequate notice to the Director of the following:

(1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to sections 301 or 306 of CWA if it were directly discharging those pollutants; and

(2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (i) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

§ 122.43 Establishing permit conditions (applicable to State programs, see § 123.25).

(a) In addition to conditions required in all permits (§§ 122.41 and 122.42), the Director shall establish conditions, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of CWA and regulations. These shall include conditions under §§ 122.46 (duration of permits), 122.47(a) (schedules of compliance), 122.48 (monitoring), and for EPA permits only 122.47(b) (alternates schedule of compliance) and 122.49 (considerations under Federal law).

(b)(1) For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit (except as provided in § 124.86(c) for NPDES permits being processed under Subparts E or F of Part 124). Section 124.14 (reopening of comment period) provides a means for reopening EPA permit proceedings at the discretion of the Director where new requirements become effective during the permitting process and are of sufficient magnitude to make additonal proceedings desirable. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in § 122.62.

(2) New or reissued permits, and to the extent allowed under § 122.62 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in §§ 122.44 and 122.45.

(c) *Incorporation.* All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).

In addition to the conditions established under § 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable.

(a) *Technology-based effluent limitations and standards* based on effluent limitations and standards promulgated under section 301 of CWA or new source performance standards promulgated under section 306 of CWA, on case-by-case effluent limitations determined under section 402(a)(1) of CWA, or on a combination of the two, in accordance with § 125.3. For new sources or new dischargers, these technology based limitations and standards are subject to the provisions of § 122.29(d) (protection period).

(b) *Other effluent limitations and standards* under sections 301, 302, 303, 307, 318, and 405 of CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Director shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. See also § 122.41(a).

(c) *Reopener clause:* for any discharger within a primary industry category (see Appendix A), requirements under section 307(a)(2) of CWA as follows:

(1) On or before June 30, 1981: (i) If applicable standards or limitations have not yet been promulgated, the permit shall include a condition stating that, if an applicable standard or limitation is promulgated under sections 301(b)(2) (C) and (D), 304(b)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

(ii) If applicable standards or limitations have been promulgated or approved, the permit shall include those standards or limitations. (If EPA approves existing effluent limitations or proves existing effluent limitations or decides not to develop new effluent limitations, it will publish a notice in the **Federal Register** that the limitations are "approved" for the purpose of this regulation.)

(2) *After June 30, 1981,* any permit issued shall include effluent limitations and a compliance schedule to meet the requirements of sections 301(b)(2) (A), (C), (D), (E) and (F) of CWA, whether or not applicable effluent limitations guidelines have been promulgated or approved. These permits need not incorporate the clause required by paragraph (c)(1) of this section.

(3) The Director shall promptly modify or revoke and reissue any permit containing the clause required under paragraph (c)(1) of this section to incorporate an applicable effluent standard or limitation under sections 301(b)(2) (C) and (D), 304(b)(2), and 307(a)(2) which is promulgated or approved after the permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit.

(d) *Water quality standards and State requirements:* any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318, and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of CWA;

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions of a State certification under section 401 of CWA which meet the requirements of § 124.53 when EPA is the permit issuing authority; however, if a State certification is stayed by a court of competent jurisdiction or appropriate

State board or agency. EPA shall include conditions in the permit which may be necessary to meet EPA's obligation under section 301(b)(1)(C) of CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;

(7) Incorporate section 403(c) criteria under Part 125, Subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by "fundamentally different factors," under 40 CFR Part 125, Subpart D;

(9) Incorporate any other requirements, conditions, or limitations into a new source permit under the National Environmental Policy Act 42 U.S.C. 4321 *et seq.* and section 511 of CWA, when EPA is the permit issuing authority (see § 122.29).

(e) *Toxic pollutants:* limitations established under paragraphs (a), (b), or (d) of this section, to control pollutants meeting the criteria listed in paragraph (e)(1) of this section. Limitations will be established in accordance with paragraph (e)(2) of this section. An explanation of the development of these limitations shall be included in the fact sheet under § 124.56(e)(2).

(1) Limitations must control all toxic pollutants which:

(i) The Director determines (based on information reported in a permit application under § 122.21(g)(7) or (10) or in a notification under § 122.42(a)(1) or on other information) are or may be discharged at a level greater than the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c); or

(ii) The discharger does or may use or manufacture as an intermediate or final product or byproduct.

(2) The requirement that the limitations control the pollutants meeting the criteria of paragraph (e)(1) of this section will be satisfied by:

(i) Limitations on those pollutants; or

(ii) Limitations on other pollutants which, in the judgment of the Director, will provide treatment of the pollutants under paragraph (e)(1) of this section to the levels required by § 125.3(c).

(f) *Notification level:* a "notification level" which exceeds the notification level of § 122.42(a)(1)(i), (ii), or (iii), upon a petition from the permittee or on the Director's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c)

(g) *Twenty-four hour reporting:* Pollutants for which the permittee must report violations of maximum daily discharge limitations under § 122.41(1)(6)(ii)(C)(24-hour reporting) shall be listed in the permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

(h) *Durations* for permits, as set forth in § 122.46.

(i) *Monitoring requirements:* In addition to § 122.48, the following monitoring requirements:

(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specified in the permit) for each pollutant limited in the permit.

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate; including pollutants in internal waste streams under § 122.45(i), pollutants in intake water for net limitations under § 122.45(f), frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); and pollutants subject to notification requirements under § 122.42(a).

(iv) According to test procedures approved under 40 CFR Part 136 for the analyses of pollutants having approved methods under that Part, and according to a test procedure specified in the permit for pollutants with no approved methods.

(2) Requirements to report monitoring results with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(j) *Pretreatment program for POTWs.* requirements for POTWs to:

(1) Identify, in terms of character and volume of pollutants, any significant indirect dischargers into the POTW subject to pretreatment standards under section 307(b) of CWA and 40 CFR Part 403

(2) Submit a local program when required by and in accordance with 40 CFR Part 403 to assure compliance with pretreatment standards to the extent applicable under section 307(b). The local program shall be incorporated into the permit as described in 40 CFR Part 403. The program shall require all indirect dischargers to the POTW to comply with the reporting requirements of 40 CFR Part 403.

(k) *Best management practices* to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;

(2) Numeric effluent limitations are infeasible, or

(3) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of CWA.

(l) *Reissued permits.* (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim limitations, standards or conditions which are at least as stringent as the final limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62).

(2) When effluent limitations were imposed under section 402(a)(1) of CWA in a previously issued permit and these limitations are more stringent than the subsequently promulgated effluent guidelines, this paragraph shall apply unless:

(i) The discharger has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations. In this case the limitations in the renewed or reissued permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by the subsequently promulgated effluent limitation guidelines);

(ii) In the case of an approved State, State law prohibits permit conditions more stringent than an applicable effluent limitation guideline;

(iii) The subsequently promulgated effluent guidelines are based on best conventional pollutant control technology (section 301(b)(2)(E) of CWA);

(iv) The circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62; or

(v) There is increased production at the facility which results in significant reduction in treatment efficiency, in which case the permit limitations will be adjusted to reflect any decreased efficiency resulting from increased production and raw waste loads, but in no event shall permit limitations be less stringent than those required by subsequently promulgated standards and limitations.

(m) *Privately owned treatment works:* For a privately owned treatment works, any conditions expressly applicable to any user, as a limited co-permittee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this Part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits, or to require separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

(n) *Grants:* Any conditions imposed in grants made by the Administrator to POTWs under sections 201 and 204 of CWA which are reasonably necessary for the achievement of effluent limitations under section 301 of CWA.

(o) *Sewage sludge:* Requirements under section 405 of CWA governing the disposal of sewage sludge from publicly owned treatment works, in accordance with any applicable regulations.

(p) *Coast Guard:* when a permit is issued to a facility that may operate at certain times as a means of transportation over water, a condition that the discharge shall comply with any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, that establish specifications for safe transportation, handling, carriage, and storage of pollutants.

(q) *Navigation:* any conditions that the Secretary of the Army considers necessary to ensure that navigation and anchorage will not be substantially impaired, in accordance with § 124.58.

§ 122.45 Calculating NPDES permit conditions (applicable to State NPDES programs, see § 123.25).

(a) *Outfalls and discharge points.* All permit effluent limitations, standards and prohibitions shall be established for each outfall or discharge point of the permitted facility, except as otherwise provided under § 122.44(j)(2) (BMPs where limitations are infeasible) and paragraph (i) of this section (limitations on internal waste streams).

(b) *Production-based limitations.* (1) In the case of POTWs, permit limitations, standards, or prohibitions shall be calculated based on design flow.

(2) Except in the case of POTWs, calculation of any permit limitations, standards, or prohibitions which are based on production (or other measure of operation) shall be based not upon the designed production capacity but rather upon a reasonable measure of actual production of the facility, such as the production during the high month of the previous year, or the monthly average for the highest of the previous 5 years. For new sources or new dischargers, actual production shall be estimated using projected production. The time period of the measure of production shall correspond to the time period of the calculated permit limitations; for example, monthly production shall be used to calculate average monthly discharge limitations.

(c) *Metals.* All permit effluent limitations, standards, or prohibitions for a metal shall be expressed in terms of the total metal (that is, the sum of the dissolved and suspended fractions of the metal) unless:

(1) An applicable effluent standard or limitation has been promulgated under CWA and specifies the limitation for the metal in the dissolved or valent form; or

(2) In establishing permit limitations on a case-by-case basis under § 125.3, it is necessary to express the limitation on the metal in the dissolved or valent form in order to carry out the provisions of CWA.

(d) *Continuous discharges.* For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:

(1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and

(2) Average weekly and average monthly discharge limitations for POTWs.

(e) *Non-continuous discharges.* Discharges which are not continuous, as defined in § 122.2, shall be particularly described and limited, considering the following factors, as appropriate:

(1) Frequency (for example, a batch discharge shall not occur more than once every 3 weeks);

(2) Total mass (for example, not to exceed 100 kilograms of zinc and 200 kilograms of chromium per batch discharge);

(3) Maximum rate of discharge of pollutants during the discharge (for example, not to exceed 2 kilograms of zinc per minute); and

(4) Prohibition or limitation of specified pollutants by mass, concentration, or other appropriate measure (for example, shall not contain at any time more than 0.1 mg/1 zinc or more than 250 grams (¼ kilogram) of zinc in any discharge).

(f) *Mass limitations.* (1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass except:

(i) For pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass;

(ii) When applicable standards and limitations are expressed in terms of other units of measurement; or

(iii) If in establishing permit limitations on a case-by-case basis under § 125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.

(2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.

(g) *Pollutants in intake water.* Except as provided in paragraph (h) of this section, effluent limitations imposed in permits may not be adjusted for pollutants in the intake water.

(h) *Net limitations.*

(1) Upon request of the discharger, effluent limitations or standards imposed in a permit shall be calculated on a "net" basis; that is, adjusted to reflect credit for pollutants in the discharger's intake water, if the discharger demonstrates that its intake water is drawn from the same body of water into which the discharge is made and if:

(i)(A) The applicable effluent limitations and standards contained in 40 CFR Subchapter N specifically provide that they shall be applied on a net basis; or

(B) The discharger demonstrates that pollutants present in the intake water will not be entirely removed by the treatment systems operated by the discharger; and

(ii) The permit contains conditions requiring:

(A) The permittee to conduct additional monitoring (for example, for flow and concentration of pollutants) as necessary to determine continued eligibility for and compliance with any such adjustments; and

(B) The permittee to notify the Director if eligibility for an adjustment under this section has been altered or no longer exists. In that case, the permit may be modified accordingly under § 122.62.

(2) Permit effluent limitations or standards adjusted under this paragraph shall be calculated on the basis of the amount of pollutants present after any treatment steps have been performed on the intake water by or for the discharger. Adjustments under this paragraph shall be given only to the extent that pollutants in the intake water which are limited in the permit are not removed by the treatment technology employed by the discharger. In addition, effluent limitations or standards may not be adjusted to the extent that the pollutants in the intake water vary physically, chemically, or biologically from the pollutants limited in the permit. Nor may effluent limitations or standards be adjusted to the extent that the discharger significantly increases concentrations of pollutants in the intake water, even though the total amount of pollutants might remain the same.

(i) *Internal waste streams.* (1) When permit effluent limitations or standards imposed at the point of discharge are impractical or infeasible, effluent limitations or standards for discharges of pollutants may be imposed on internal waste streams before mixing with other waste streams or cooling water streams. In those instances, the monitoring required by § 122.44(i) shall also be applied to the internal waste streams.

(2) Limits on internal waste streams will be imposed only when the fact sheet under § 124.56 sets forth the exceptional circumstances which make such limitations necessary, such as when the final discharge point is inaccessible (for example, under 10 meters of water), the wastes at the point of discharge are so diluted as to make monitoring impracticable, or the interferences among pollutants at the point of discharge would make detection or analysis impracticable.

(j) *Disposal of pollutants into wells, into POTWs or by land application.* Permit limitations and standards shall be calculated as provided in § 122.50.

§ 122.46 Duration of permits (applicable to State programs, see § 123.25).

(a) NPDES permits shall be effective for a fixed term not to exceed 5 years.

(b) Except as provided in § 122.5, the term of a permit shall not be extended by modification beyond the maximum duration specified in this section.

(c) The Director may issue any permit for a duration that is less than the full allowable term under this section.

(d) On or before June 30, 1981, any permit issued to a discharger in a primary industry category (see Appendix A of this Part):

(1) Shall meet one of the following conditions:

(i) Expire on June 30, 1981;

(ii) Incorporate effluent standards and limitations applicable to the discharger which have been promulgated or approved under sections 301(b)(2) (C) and (D), 304(b)(2), and 307(a)(2) of CWA; or

(iii) Incorporate the "reopener clause" required by § 122.44(c)(1), and effluent limitations to meet the requirements of sections 301(b)(2) (A), (C), (D), (E), and (F) of CWA.

(2) Shall not be written to expire after June 30, 1981 unless the discharger has submitted to the Director the information required by § 122.21(g)(7)(ii).

(e) After June 30, 1981, a permit may be issued for the full term if the permit includes effluent limitations and a compliance schedule to meet the requirements of sections 301(b)(2) (A), (C), (D), (E), and (F) of CWA, whether or not applicable effluent limitations guidelines have been promulgated or approved.

(f) A determination that a particular discharger falls within a given industrial category for purposes of setting a permit expiration date under paragraph (e) of this section is not conclusive as to the discharger's inclusion in that industrial category for any other purposes, and does not prejudice any rights to challenge or change that inclusion at the time that a permit based on that determination is formulated.

§ 122.47 Schedules of compliance.

(a) *General (applicable to State programs, see § 123.25).* The permit may, when appropriate, specify a schedule of compliance leading to compliance with CWA and regulations.

(1) *Time for compliance.* Any schedules of compliance under this section shall require compliance as soon as possible, but not later than the applicable statutory deadline under the CWA.

(2) The first NPDES permit issued to a new source, a new discharger which commenced discharge after August 13, 1979, or a recommencing discharger may not contain a schedule of compliance under this section. See also § 122.29(d)(4).

(3) *Interim dates.* Except as provided in paragraph (b)(1)(ii), if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(i) The time between interim dates shall not exceed 1 year.

(ii) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

[Note.—Examples of interim requirements include: (a) submit a complete Step 1 construction grant (for POTWs); (b) let a contract for construction of required facilities; (c) commence construction of required facilities; (d) complete construction of required facilities.]

(4) *Reporting.* The permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Director in writing of its compliance or noncompliance with the interim or final requirements, or submit progress reports if paragraph (a)(1)(ii) is applicable.

(b) *Alternative schedules of compliance.* An NPDES permit applicant or permittee may cease conducting regulated activities (by terminating of direct discharge for NPDES sources) rather than continuing to operate and meet permit requriements as follows:

(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(i) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

(ii) The permittee shall cease conducting permitted activities before non-compliance with any interim or final compliance schedule requirement already specified in the permit.

(2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements no later than the statutory deadline.

(3) If the permittee is undecided whether to cease conducting regulated activities, the Director may issue or modify a permit to contain two schedules as follows:

(i) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities:

(ii) One schedule shall lead to timely compliance with applicable requirements, no later than the statutory deadline;

(iii) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements no later than the statutory deadline.

(iv) Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under paragraph (b)(3)(i) of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Director such as a resolution of the board of directors of a corporation.

§ 122.48 Requirements for recording and reporting of monitoring results (applicable to State programs, see § 123.25).

All permits shall specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in § 122.44. Reporting shall be no less frequent than specified in the above regulations.

§ 122.49 Considerations under Federal law.

Permits shall be issued in a manner and shall contain conditions consistent with requirements of applicable Federal laws. These laws may include:

(a) The *Wild and Scenic Rivers Act*, 16 U.S.C. 1273 *et seq.* Section 7 of the Act prohibits the Regional Administrator from assisting by license or otherwise the construction of any water resources project that would have a direct, adverse effect on the values for which a national wild and scenic river was established.

(b) The *National Historic Preservation Act of 1966*, 16 U.S.C. 470 *et seq.* Section 106 of the Act and implementing regulations (36 CFR Part 800) require the Regional Administrator, before issuing a license, to adopt measures when feasible to mitigate potential adverse effects of the licensed activity and properties listed or eligible for listing in the National Register of Historic Places. The Act's requirements are to be implemented in cooperation with State Historic Preservation Officers and upon notice to, and when appropriate, in consultation with the Advisory Council on Historic Preservation.

(c) The *Endangered Species Act*, 16 U.S.C. 1531 *et seq.* Section 7 of the Act and implementing regulations (50 CFR Part 402) require the Regional Administrator to ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat.

(d) The *Coastal Zone Management Act*, 16 U.S.C. 1451 *et seq.* Section 307(c) of the Act and implementing regulations (15 CFR Part 930) prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence).

(e) The *Fish and Wildlife Coordination Act*, 16 U.S.C. 661 *et seq.*, requires that the Regional Administrator, before issuing a permit proposing or authorizing the impoundment (with certain exemptions), diversion, or other control or modification of any body of water, consult with the appropriate State agency exercising jurisdiction over wildlife resources to conserve those resources.

(f) *Executive orders.* [Reserved.]

(g) The *National Environmental Policy Act*, 33 U.S.C. 4321 *et seq.*, may require preparation of an Environmental Impact Statement and the inclusion of EIS-related permit conditions, as provided in § 122.29(c).

§ 122.50 Disposal of pollutants into wells, into publicly owned treatment works or by land application (applicable to State NPDES programs, see § 123.25).

(a) When part of a discharger's process wastewater is not being discharged into waters of the United States or contiguous zone because it is disposed into a well, into a POTW, or by land application thereby reducing the flow or level of pollutants being discharged into waters of the United States, applicable effluent standards and limitations for the discharge in an NPDES permit shall be adjusted to reflect the reduced raw waste resulting from such disposal. Effluent limitations and standards in the permit shall be calculated by one of the following methods:

(1) If none of the waste from a particular process is discharged into waters of the United States, and effluent limitations guidelines provide separate allocation for wastes from that process, all allocations for the process shall be eliminated from calculation of permit effluent limitations or standards.

(2) In all cases other than those described in paragraph (a)(1) of this section, effluent limitations shall be adjusted by multiplying the effluent limitation derived by applying effluent limitation guidelines to the total waste stream by the amount of wastewater flow to be treated and discharged into waters of the United States, and dividing the result by the total wastewater flow. Effluent limitations and standards so calculated may be further adjusted under Part 125, Subpart D to make them more stringent if discharges to wells, publicly owned treatment works, or by land application change the character or treatability of the pollutants being discharged to receiving waters.

This method may be algebraically expressed as:

$$P = E \times \frac{N}{T}$$

where P is the permit effluent limitation, E is the limitation derived by applying effluent guidelines to the total waste stream, N is the wastewater flow to be treated and discharged to waters of the United States, and T is the total wastewater flow.

(b) Paragraph (a) of this section does not apply to the extent that promulgated effluent limitations guidelines:

(1) Control concentrations of pollutants discharged but not mass; or

(2) Specify a different specific technique for adjusting effluent limitations to account for well injection, land application, or disposal into POTWs.

(c) Paragraph (a) of this section does not alter a discharger's obligation to meet any more stringent requirements established under §§ 122.41, 122.42, 122.43, and 122.44.

Subpart D—Transfer, Modification, Revocation and Reissuance, and Termination of Permits

§ 122.61 Transfer of permits (applicable to State programs, see § 123.25).

(a) *Transfers by modification.* Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under § 122.62(b)(2)), or a minor modification made (under § 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.

(b) *Automatic transfers.* As an alternative to transfers under paragraph (a) of this section, any NPDES permit may be automatically transferred to a new permittee if:

(1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (b)(2) of this section;

(2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

(3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under § 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.

§ 122.62 Modification or revocation and reissuance of permits (applicable to State programs, see § 123.25).

When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see § 122.41), receives a request for modification or revocation and reissuance under § 124.5, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in paragraphs (a) and (b) of this section for modification or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See § 124.5(c)(2). If cause does not exist under this section or § 122.63, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in § 122.63 for "minor modifications" the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in Part 124 (or procedures of an approved State program) followed.

(a) *Causes for modification.* The following are causes for modification but not revocation and reissuance of permits except when the permittee requests or agrees.

(1) *Alterations.* There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

[Note.—Certain reconstruction activities may cause the new source provisions of § 122.29 to be applicable.]

(2) *Information.* The Director has received new information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For NPDES general permits (§ 122.28) this cause includes any information indicating that cumulative effects on the environment are unacceptable.

(3) *New regulations.* The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:

(i) For promulgation of amended standards or regulations, when:

(A) The permit condition requested to be modified was based on a promulgated effluent limitation guideline or EPA approved or promulgated water quality standard; and

(B) EPA has revised, withdrawn, or modified that portion of the regulation or effluent limitation guideline on which the permit condition was based, or has approved a State action with regard to a water quality standard on which the permit condition was based; and

(C) A permittee requests modification in accordance with § 124.5 within ninety (90) days after **Federal Register** notice of the action on which the request is based.

(ii) For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations or effluent limitation guidelines, if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee in accordance with § 124.5 within ninety (90) days of judicial remand.

(iii) For changes based upon modified State certifications of NPDES permits, see § 124.55(b).

(4) *Compliance schedules.* The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy. However, in no case may an NPDES compliance schedule be modified to extend beyond an applicable CWA statutory deadline. See also § 122.63(c) (minor modifications) and paragraph (a)(14) of this section (NPDES innovative technology).

(5) *Variances.* When the permittee has filed a request for a variance under CWA section 301(c), 301(g), 301(h), 301(i), 301(k), or 316(a) or for "fundamentally different factors" within the time specified in § 122.21, and the Director processes the request under the applicable provisions of §§ 124.61, 124.62, and 124.64.

(6) *307(a) toxics.* When required to incorporate an applicable 307(a) toxic effluent standard or prohibition (see § 122.44(b)).

(7) *Reopener.* When required by the "reopener" conditions in a permit, which are established in the permit under § 122.44(b) (for CWA toxic effluent limitations) or 40 CFR 403.10(e) (pretreatment program).

(8)(i) *Net limits.* Upon request of a permittee who qualifies for effluent limitations on a net basis under § 122.45(h).

(ii) When a discharger is no longer eligible for net limitations, as provided in § 122.45(h)(1)(ii)(B).

(9) *Pretreatment.* As necessary under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program).

(10) *Failure to notify.* Upon failure of an approved State to notify, as required by section 402(b)(3), another State whose waters may be affected by a discharge from the approved State.

(11) *Non-Limited pollutants.* When the level of discharge of any pollutant which

is not limited in the permit exceeds the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c).

(12) *Use or manufacture of toxics.* When the permittee begins or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application under § 122.21(g)(9).

(13) *Notification levels.* To establish a "notification level" as provided in § 122.44(f).

(14) *Compliance schedules.* To modify a schedule of compliance to reflect the time lost during construction of an innovative or alternative facility, in the case of a POTW which has received a grant under section 202(a)(3) of CWA for 100% of the costs to modify or replace facilities constructed with a grant for innovative and alternative wastewater technology under section 202(a)(2). In no case shall the compliance schedule be modified to extend beyond an applicable CWA statutory deadline for compliance.

(b) *Causes for modification or revocation and reissuance.* The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under § 122.64, and the Director determines that modification or revocation and reissuance is appropriate.

(2) The Director has received notification (as required in the permit, see § 122.41(l)(3)) of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (§ 122.61(b)) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

§ 122.63 Minor modifications of permits.

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with Part 124 draft permit and public notice as required in § 122.62. Minor modifications may only:

(a) Correct typographical errors;

(b) Require more frequent monitoring or reporting by the permittee;

(c) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or

(d) Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.

(e)(1) Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge under § 122.29.

(2) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.

§ 122.64 Termination of permits (applicable to State programs, see § 123.25).

(a) The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(4) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

(b) The Director shall follow the applicable procedures in Part 124 or State procedures in terminating any NPDES permit under this section.

Appendix A—NPDES Primary Industry Categories

Any permit issued after June 30, 1981 to dischargers in the following categories shall include effluent limitations and a compliance schedule to meet the requirements of section 301(b)(2)(A), (C), (D), (E) and (F) of CWA, whether or not applicable effluent limitations guidelines have been promulgated. See §§ 122.44 and 122.46.

Industry Category

Adhesives and Sealants
Aluminum Forming
Auto and Other Laundries
Battery Manufacturing
Coal Mining
Coil Coating
Copper Forming
Electrical and Electronic Components
Electroplating
Explosives Manufacturing
Foundries
Gum and Wood Chemicals
Inorganic Chemicals Manufacturing
Iron and Steel Manufacturing
Leather Tanning and Finishing
Mechanical Products Manufacturing
Nonferrous Metals Manufacturing
Ore Mining
Organic Chemicals Manufacturing
Paint and Ink Formulation
Pesticides
Petroleum Refining
Pharmaceutical Preparations
Photographic Equipment and Supplies
Plastics Processing
Plastic and Synthetic Materials Manufacturing
Porcelain Enameling
Printing and Publishing
Pulp and Paper Mills
Rubber Processing
Soap and Detergent Manufacturing
Steam Electric Power Plants
Textile Mills
Timber Products Processing

Appendix B—Criteria for Determining a Concentrated Animal Feeding Operation (§ 122.23)

An animal feeding operation is a concentrated animal feeding operation for purposes of § 122.23 if either of the following criteria are met.

(a) More than the numbers of animals specified in any of the following categories are confined:

(1) 1,000 slaughter and feeder cattle,

(2) 700 mature dairy cattle (whether milked or dry cows),

(3) 2,500 swine each weighing over 25 kilograms (approximately 55 pounds),

(4) 500 horses,

(5) 10,000 sheep or lambs,

(6) 55,000 turkeys,

(7) 100,000 laying hens or broilers (if the facility has continuous overflow watering),

(8) 30,000 laying hens or broilers (if the facility has a liquid manure system),

(9) 5,000 ducks, or

(10) 1,000 animal units; or

(b) More than the following number and types of animals are confined:

(1) 300 slaughter or feeder cattle,

(2) 200 mature dairy cattle (whether milked or dry cows),

(3) 750 swine each weighing over 25 kilograms (approximately 55 pounds),

(4) 150 horses,

(5) 3,000 sheep or lambs,

(6) 16,500 turkeys,

(7) 30,000 laying hens or broilers (if the facility has continuous overflow watering),

(8) 9,000 laying hens or broilers (if the

facility has a liquid manure handling system).

(9) 1,500 ducks, or

(10) 300 animal units;

and either one of the following conditions are met: pollutants are discharged into navigable waters through a manmade ditch, flushing system or other similar man-made device; or pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

Provided, however, that no animal feeding operation is a concentrated animal feeding operation as defined above if such animal feeding operation discharges only in the event of a 25 year, 24-hour storm event.

The term "animal unit" means a unit of measurement for any animal feeding operation calculated by adding the following numbers: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over 25 kilograms (approximately 55 pounds) multiplied by 0.4, plus the number of sheep multiplied by 0.1, plus the number of horses multiplied by 2.0.

The term "manmade" means constructed by man and used for the purpose of transporting wastes.

Appendix C—Criteria for Determining a Concentrated Aquatic Animal Production Facility (§ 122.24).

A hatchery, fish farm, or other facility is a concentrated aquatic animal production facility for purposes of § 122.24 if it contains, grows, or holds aquatic animals in either of the following categories:

(a) Cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include:

(1) Facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and

(2) Facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.

(b) Warm water fish species or other warm water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year, but does not include:

(1) Closed ponds which discharge only during periods of excess runoff; or

(2) Facilities which produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.

"Cold water aquatic animals" include, but are not limited to, the *Salmonidae* family of fish; e.g., trout and salmon.

"Warm water aquatic animals" include, but are not limited to, the *Ameiuride, Centrarchidae* and *Cyprinidae* families of fish; e.g., respectively, catfish, sunfish and minnows.

Appendix D—NPDES Permit Application Testing Requirements (§ 122.21).

TABLE I.—TESTING REQUIREMENTS FOR ORGANIC TOXIC POLLUTANTS BY INDUSTRIAL CATEGORY FOR EXISTING DISCHARGERS

Industrial category	GC/MS Fraction¹			
	Volatile	Acid	Base/neutral	Pesticide
Adhesives and Sealants	•	•	•	
Aluminum Forming	•	•	•	
Auto and Other Laundries	•	•	•	•
Battery Manufacturing	•		•	
Coal Mining	•	•	•	•
Coil Coating	•	•	•	
Copper Forming	•	•	•	
Electric and Electronic Components	•	•	•	•
Electroplating	•	•	•	
Explosives Manufacturing		•	•	
Foundries	•	•	•	
Gum and Wood Chemicals	•	•	•	•
Inorganic Chemicals Manufacturing	•	•	•	
Iron and Steel Manufacturing	•	•	•	
Leather Tanning and Finishing	•	•	•	•
Mechanical Products Manufacturing	•	•	•	
Nonferrous Metals Manufacturing	•	•	•	•
Ore Mining	•	•	•	•
Organic Chemicals Manufacturing	•	•	•	•
Paint and Ink Formulation	•	•	•	•
Pesticides	•	•	•	•
Petroleum Refining	•	•	•	•
Pharmaceutical Preparations	•	•	•	
Photographic Equipment and Supplies	•	•	•	•
Plastic and Synthetic Materials Manufacturing	•	•	•	•
Plastic Processing	•			
Porcelain Enameling	•		•	•
Printing and Publishing	•	•	•	•
Pulp and Paper Mills	•	•	•	•
Rubber Processing	•	•	•	
Soap and Detergent Manufacturing	•	•	•	
Steam Electric Power Plants	•	•	•	
Textile Mills	•	•	•	•
Timber Products Processing	•	•	•	•

¹The toxic pollutants in each fraction are listed in Table II.

²Testing required.

Table II.—Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)

Volatiles

1V acrolein
2V acrylonitrile
3V benzene
5V bromoform
6V carbon tetrachloride
7V chlorobenzene
8V chlorodibromomethane
9V chloroethane
10V 2-chloroethylvinyl ether
11V chloroform
12V dichlorobromomethane
14V 1,1-dichloroethane
15V 1,2-dichloroethane
16V 1,1-dichloroethylene
17V 1,2-dichloropropane
18V 1,2-dichloropropylene
19V ethylbenzene
20V methyl bromide
21V methyl chloride
22V methylene chloride
23V 1,1,2,2-tetrachloroethane
24V tetrachloroethylene
25V toluene
26V 1,2-trans-dichloroethylene
27V 1,1,1-trichloroethane
28V 1,1,2-trichloroethane
29V trichloroethylene
31V vinyl chloride

Acid Compounds

1A 2-chlorophenol
2A 2,4-dichlorophenol
3A 2,4-dimethylphenol
4A 4,6-dinitro-o-cresol
5A 2,4-dinitrophenol
6A 2-nitrophenol
7A 4-nitrophenol
8A p-chloro-m-cresol
9A pentachlorophenol
10A phenol
11A 2,4,6-trichlorophenol

Base/Neutral

1B acenaphthene
2B acenaphthylene
3B anthracene
4B benzidine
5B benzo(a)anthracene
6B benzo(a)pyrene
7B 3,4-benzofluoranthene
8B benzo(ghi)perylene
9B benzo(k)fluoranthene
10B bis(2-chloroethoxy)methane
11B bis(2-chloroethyl)ether
12B bis(2-chloroisopropyl)ether
13B bis (2-ethylhexyl)phthalate
14B 4-bromophenyl phenyl ether
15B butylbenzyl phthalate
16B 2-chloronaphthalene
17B 4-chlorophenyl phenyl ether
18B chrysene
19B dibenzo(a,h)anthracene
20B 1,2-dichlorobenzene
21B 1,3-dichlorobenzene
22B 1,4-dichlorobenzene
23B 3,3'-dichlorobenzidine
24B diethyl phthalate
25B dimethyl phthalate
26B di-n-butyl phthalate
27B 2,4-dinitrotoluene
28B 2,6-dinitrotoluene
29B di-n-octyl phthalate
30B 1,2-diphenylhydrazine (as azobenzene)
31B fluroranthene
32B fluorene
33B hexachlorobenzene
34B hexachlorobutadiene
35B hexachlorocyclopentadiene
36B hexachloroethane
37B indeno(1,2,3-cd)pyrene
38B isophorone
39B napthalene
40B nitrobenzene
41B N-nitrosodimethylamine
42B N-nitrosodi-n-propylamine
43B N-nitrosodiphenylamine
44B phenanthrene
45B pyrene

46B 1.2.4-trichlorobenzene

Pesticides

1P aldrin
2P alpha-BHC
3P beta-BHC
4P gamma-BHC
5P delta-BHC
6P chlordane
7P 4.4'-DDT
8P 4.4'-DDE
9P 4.4'-DDD
10P dieldrin
11P alpha-endosulfan
12P beta-endosulfan
13P endosulfan sulfate
14P endrin
15P endrin aldehyde
16P heptachlor
17P heptachlor epoxide
18P PCB-1242
19P PCB-1254
20P PCB-1221
21P PCB-1232
22P PCB-1248
23P PCB-1260
24P PCB-1016
25P toxaphene

Table III.—Other Toxic Pollutants: Metals, Cyanide, and Total Phenols

Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total
Copper, Total
Lead, Total
Mercury, Total
Nickel, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total
Cyanide, Total
Phenols, Total

Table IV.—Conventional and Nonconventional Pollutants Required To Be Tested by Existing Dischargers if Expected to be Present

Bromide
Chlorine, Total Residual
Color
Fecal Coliform
Fluoride
Nitrate-Nitrite
Nitrogen, Total Organic
Oil and Grease
Phosphorus, Total
Radioactivity
Sulfate
Sulfide
Sulfite
Surfactants
Aluminum, Total
Barium, Total
Boron, Total
Cobalt, Total
Iron, Total
Magnesium, Total
Molybdenum, Total
Manganese, Total
Tin, Total
Titanium, Total

Table V.—Toxic Pollutants and Hazardous Substances Required To Be Identified by Existing Dischargers if Expected To Be Present

Toxic Pollutants

Asbestos

Hazardous Substances

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Aniline
Benzonitrile
Benzyl chloride
Butyl acetate
Butylamine
Captan
Carbaryl
Carbofuran
Carbon disulfide
Chlorpyrifos
Coumaphos
Cresol
Crotonaldehyde
Cyclohexane
2.4-D (2.4 Dichlorophenoxy acetic acid)
Diazinon
Dicamba
Dichlobenil
Dichlone
2.2-Dichloropropionic acid
Dichlorvos
Diethyl amine
Dimethyl amine
Dinitrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethanolamine
Ethion
Ethylene diamine
Ethylene dibromide
Formaldehyde
Furfural
Guthion
Isoprene
Isopropanolamine
Kelthane
Kepone
Malathion
Mercaptodimethur
Methoxychlor
Methyl mercaptan
Methyl methacrylate
Methyl parathion
Mevinphos
Mexacarbate
Monoethyl amine
Monomethyl amine
Naled
Napthenic acid
Nitrotoluene
Parathion
Phenolsulfanate
Phosgene
Propargite
Propylene oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
Styrene
2.4.5-T (2.4.5-Trichlorophenoxy acetic acid)
TDE (Tetrachlorodiphenylethane)
2.4.5-TP [2-(2.4.5-Trichlorophenoxy) propanoic acid]
Trichlorofan
Triethylamine
Trimethylamine
Uranium
Vanadium
Vinyl acetate
Xylene
Xylenol
Zirconium

[Note.—The Environmental Protection Agency has suspended the requirements of §122.21(g)(7)(ii)(A) and Table I of Appendix D as they apply to certain industrial categories. The suspensions are as follows:

At 46 FR 2046, Jan. 8, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(ii)(A) as it applies to coal mines.

At 46 FR 22585, Apr. 20, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(ii)(A) and the corresponding portions of Item V-C of the NPDES application Form 2c as they apply to:

1. Testing and reporting for all four organic fractions in the Greige Mills Subcategory of the Textile Mills industry (Subpart C—Low water use processing of 40 CFR Part 410), and testing and reporting for the pesticide fraction in all other subcategories of this industrial category.

2. Testing and reporting for the volatile, base/neutral and pesticide fractions in the Base and Precious Metals Subcategory of the Ore Mining and Dressing industry (Subpart B of 40 CFR Part 440), and testing and reporting for all four fractions in all other subcategories of this industrial category.

3. Testing and reporting for all four GC/MS fractions in the Porcelain Enameling industry.

At 46 FR 35090, July 1, 1981, the Environmental Protection Agency suspended until further notice § 122.21(g)(7)(ii)(A) and the corresponding portions of Item V-C of the NPDES application Form 2c as they apply to:

1. Testing and reporting for the pesticide fraction in the Tall Oil Rosin Subcategory (Subpart D) and Rosin-Based Derivatives Subcategory (Subpart F) of the Gum and Wood Chemicals industry (40 CFR Part 454), and testing and reporting for the pesticide and base/netural fractions in all other subcategories of this industrial category.

2. Testing and reporting for the pesticide fraction in the Leather Tanning and Finishing, Paint and Ink Formulation, and Photographic Supplies industrial categories.

3. Testing and reporting for the acid, base/neutral and pesticide fractions in the Petroleum Refining industrial category.

4. Testing and reporting for the pesticide fraction in the Papergrade Sulfite subcategories (Subparts J and U) of the Pulp and Paper industry (40 CFR Part 430); testing and reporting for the base/neutral and pesticide fractions in the following subcategories: Deink (Subpart Q), Dissolving Kraft (Subpart F), and Paperboard from Waste Paper (Subpart E); testing and reporting for the volatile, base/neutral and pesticide fractions in the following subcategories: BCT Bleached Kraft (Subpart

H). Semi-Chemical (Subparts B and C). and Nonintegrated-Fine Papers (Subpart R). and testing and reporting for the acid. base/neutral. and pesticide fractions in the following subcategories: Fine Bleached Kraft (Subpart I). Dissolving Sulfite Pulp (Subpart K). Groundwood-Fine Papers (Subpart O). Market Bleached Kraft (Subpart C). Tissue from Wastepaper (Subpart T). and Nonintegrated-Tissue Papers (Subpart S)

5. Testing and reporting for the base/neutral fraction in the Once-Through Cooling Water. Fly Ash and Bottom Ash Transport Water process wastestreams of the Steam Electric Power Plant industrial category

This revision continues these suspensions.]

For the duration of the suspensions therefore. Table I effectively reads

TABLE I.—TESTING REQUIREMENTS FOR ORGANIC TOXIC POLLUTANTS BY INDUSTRY CATEGORY

Industry category	GC/MS fraction[1]			
	Volatile	Acid	Base/neutral	Pesticide
Adhesives and sealants	(*)	(*)	(*)	
Aluminum forming	(*)	(*)	(*)	
Auto and other laundries	(*)	(*)	(*)	(*)
Battery manufacturing	(*)		(*)	
Coal mining				
Coil coating	(*)	(*)	(*)	
Copper forming	(*)	(*)	(*)	
Electric and electronic components	(*)	(*)	(*)	(*)
Electroplating	(*)	(*)	(*)	
Explosives manufacturing		(*)	(*)	
Foundries	(*)	(*)	(*)	
Gum and wood (all subparts except D and F)	(*)	(*)		
Subpart D—tall oil rosin	(*)	(*)	(*)	
Subpart F—rosin-based derivatives	(*)	(*)	(*)	
Inorganic chemicals manufacturing	(*)	(*)	(*)	
Iron and steel manufacturing	(*)	(*)	(*)	
Leather tanning and finishing	(*)	(*)	(*)	
Mechanical products manufacturing	(*)	(*)	(*)	
Nonferrous metals manufacturing	(*)	(*)	(*)	(*)
Ore mining (applies to the base and precious metals/subpart B)		(*)		
Organic chemicals manufacturing	(*)	(*)	(*)	(*)
Paint and ink formulation	(*)	(*)	(*)	
Pesticides	(*)	(*)	(*)	(*)
Petroleum refining	(*)			
Pharmaceutical preparations	(*)	(*)	(*)	
Photographic equipment and supplies	(*)	(*)	(*)	
Plastic and synthetic materials manufacturing	(*)	(*)	(*)	(*)
Plastic processing	(*)			
Porcelain enameling				
Printing and publishing	(*)	(*)	(*)	(*)
Pulp and paperboard mills—see footnote[2]				
Rubber processing	(*)	(*)	(*)	
Soap and detergent manufacturing	(*)	(*)	(*)	
Steam electric power plants	(*)	(*)		
Textile mills (subpart C—Greige Mills are exempt from this table)	(*)	(*)	(*)	
Timber products processing	(*)	(*)	(*)	(*)

*Testing required.

[1] The pollutants in each fraction are listed in item V-C.

[2] Pulp and Paperboard Mills.

Subpart #	GS/MS fractions			
	VOA	Acid	Base neutral	Pesticides
A	—	(*)	—	(*)
B	—	(*)	—	—
C	—	(*)	—	—
D	—	(*)	—	—
E	(*)	(*)	—	(*)
F	(*)	(*)	—	—
G	(*)	(*)	—	—
H	(*)	(*)	—	—
I	(*)	(*)	—	—
J	(*)	(*)	(*)	—
K	(*)	(*)	—	—
L	(*)	(*)	—	—
M	(*)	(*)	—	—
N	(*)	(*)	—	—
O	(*)	(*)	—	—
P	(*)	(*)	—	—
Q	(*)	(*)	—	(*)
R	—	(*)	—	—
S	(*)	(*)	—	(*)
T	(*)	(*)	—	(*)
U	(*)	(*)	(*)	—

*Must test.

— Do not test unless "reason to believe" it is discharged.

Subparts are defined in 40 CFR Part 430.

Part 123 is revised to read as follows:

PART 123—STATE PROGRAM REQUIREMENTS

Subpart A—General

Sec.
123.1 Purpose and scope.
123.2 Definitions.
123.3 Coordination with other programs.

Subpart B—State Program Submissions

123.21 Elements of a program submission.
123.22 Program description.
123.23 Attorney General's Statement.
123.24 Memorandum of Agreement with the Regional Administrator.
123.25 Requirements for permitting.
123.26 Requirements for compliance evaluation programs.
123.27 Requirements for enforcement authority.
123.28 Control of disposal of pollutants into wells.
123.29 Prohibition.

Subpart C—Transfer of Information and Permit Review

123.41 Sharing of information.
123.42 Receipt and use of Federal information.
123.43 Transmission of information to EPA.
123.44 EPA review of and objections to State permits.
123.45 Noncompliance and program reporting by the Director.

Subpart D—Program Approval, Revision and Withdrawal

123.61 Approval process.
123.62 Procedures for revision of State programs.
123.63 Criteria for withdrawal of State programs.
123.64 Procedures for withdrawal of State programs.

Authority: Clean Water Act. 33 U.S.C. 1251 *et seq.*

Subpart A—General

§ 123.1 Purpose and scope.

(a) This part specifies the procedures EPA will follow in approving, revising, and withdrawing State programs and the requirements State programs must meet to be approved by the Administrator under Sections 318, 402, and 405 (National Pollutant Discharge Elimination System—NPDES) of CWA.

(b) These regulations are promulgated under the authority of sections 304(i) and 101(e) of CWA, and implement the requirements of those sections.

(c) The Administrator shall approve State programs which conform to the applicable requirements of this Part. A State NPDES program will not be approved by the Administrator under section 402 of CWA unless it has authority to control the discharges specified in sections 318 and 405(a) of CWA. Permit programs under sections 318 and 405 will not be approved independent of a section 402 permit program.

(d) Upon approval of a State program, the Administrator shall suspend the issuance of Federal permits for those activities subject to the approved State program. After program approval EPA shall retain jurisdiction over any permits (including general permits) which it has issued unless arrangements have been made with the State in the Memorandum of Agreement for the State to assume responsibility for these permits. Retention of jurisdiction shall include the processing of any permit appeals, modification requests, or variance requests; the conduct of inspections, and the receipt and review of self-monitoring reports. If any permit appeal, modification request or variance request is not finally resolved when the Federally issued permit expires, EPA may, with the consent of the State, retain jurisdiction until the matter is resolved.

(e) Upon submission of a complete program, EPA will conduct a public hearing, if interest is shown, and determine whether to approve or disapprove the program taking into consideration the requirements of this part, the CWA and any comments received.

(f) Any State program approved by the Administrator shall at all times be conducted in accordance with the requirements of this Part.

(g) No partial NPDES programs will be approved by EPA. The State program must prohibit (except as provided in § 122.3) all point source discharges of pollutants, all discharges into aquaculture projects, and all disposal of sewage sludge which results in any pollutant from such sludge entering into any waters of the United States within the State's jurisdiction, except as authorized by a permit in effect under the State program or under section 402 of CWA. NPDES authority may be shared by two or more State agencies but each agency must have Statewide jurisdiction over a class of activities or discharges. When more than one agency is responsible for issuing permits, each agency must make a submission meeting the requirements of § 123.21 before EPA will begin formal review.

(h) A State's lack of authority to regulate activities on Indian lands does not impair a State's ability to obtain full program approval in accordance with this Part, i.e., inability of a State to regulate activities on Indian lands does not constitute a partial program. EPA will administer the program on Indian lands if the State does not seek this authority.

[Note.—States are advised to contact the United States Department of the Interior, Bureau of Indian Affairs, concerning authority over Indian lands.]

(i) Nothing in this Part precludes a State from:

(1) Adopting or enforcing requirements which are more stringent or more extensive than those required under this Part;

(2) Operating a program with a greater scope of coverage than that required under this Part. If an approved State program has greater scope of coverage than required by Federal law the additional coverage is not part of the Federally approved program.

[Note.—For example, if a State requires permits for discharges into publicly owned treatment works, these permits are not NPDES permits.]

§ 123.2 Definitions.

The definitions in Part 122 apply to all subparts of this Part.

§ 123.3 Coordination with other programs.

Issuance of State permits under this Part may be coordinated with issuance of RCRA, UIC, NPDES, and 404 permits whether they are controlled by the State, EPA, or the Corps of Engineers. See § 124.4.

Subpart B—State Program Submissions

§ 123.21 Elements of a program submission.

(a) Any State that seeks to administer a program under this Part shall submit to the Administrator at least three copies of a program submission. The submission shall contain at least three copies of the following:

(1) A letter from the Governor of the State requesting program approval;

(2) A complete program description, as required by § 123.22, describing how the State intends to carry out its responsibilities under this Part;

(3) An Attorney General's statement as required by § 123.23;

(4) A Memorandum of Agreement with the Regional Administrator as required by § 123.24;

(5) Copies of all applicable State statutes and regulations, including those governing State administrative procedures;

(b) Within 30 days of receipt by EPA of a State program submission, EPA will notify the State whether its submission is complete. If EPA finds that a State's submission is complete, the statutory review period (i.e., the period of time allotted for formal EPA review of a proposed State program under CWA) shall be deemed to have begun on the date of receipt of the State's submission. If EPA finds that a State's submission is incomplete, the statutory review period shall not begin until all the necessary information is received by EPA.

(c) If the State's submission is materially changed during the statutory review period, the statutory review period shall begin again upon receipt of the revised submission.

(d) The State and EPA may extend the statutory review period by agreement.

§ 123.22 Program description.

Any State that seeks to administer a program under this Part shall submit a description of the program it proposes to administer in lieu of the Federal program under State law or under an interstate compact. The program description shall include:

(a) A description in narrative form of the scope, structure, coverage and processes of the State program.

(b) A description (including organization charts) of the organization and structure of the State agency or agencies which will have responsibility for administering the program, including the information listed below. If more than one agency is responsible for administration of a program, each agency must have statewide jurisdiction over a class of activities. The responsibilities of each agency must be delineated, their procedures for coordination set forth, and an agency may be designated as a "lead agency" to facilitate communications between EPA and the State agencies having program responsibility. If the State proposes to administer a program of greater scope of coverage than is required by Federal law, the information provided under this paragraph shall indicate the resources dedicated to administering the Federally required portion of the program.

(1) A description of the State agency staff who will carry out the State program, including the number, occupations, and general duties of the employees. The State need not submit complete job descriptions for every employee carrying out the State program.

(2) An itemization of the estimated costs of establishing and administering the program for the first two years after approval, including cost of the personnel listed in paragraph (b)(1) of this section, cost of administrative support, and cost of technical support.

(3) An itemization of the sources and amounts of funding, including an estimate of Federal grant money, available to the State Director for the first two years after approval to meet the costs listed in paragraph (b)(2) of this section, identifying any restrictions or limitations upon this funding.

(c) A description of applicable State procedures, including permitting procedures and any State administrative or judicial review procedures;

(d) Copies of the permit form(s), application form(s), and reporting form(s) the State intends to employ in its program. Forms used by States need not be identical to the forms used by EPA but should require the same basic information, except that State NPDES programs are required to use standard Discharge Monitoring Reports (DMR). The State need not provide copies of uniform national forms it intends to use but should note its intention to use such forms.

[Note.—States are encouraged to use uniform national forms established by the Administrator. If uniform national forms are used, they may be modified to include the State Agency's name, address, logo, and other similar information, as appropriate, in place of EPA's.]

(e) A complete description of the State's compliance tracking and enforcement programs.

§ 123.23 Attorney General's statement.

(a) Any State that seeks to administer a program under this Part shall submit a statement from the State Attorney General (or the attorney for those State or interstate agencies which have independent legal counsel) that the laws of the State, or an interstate compact, provide adequate authority to carry out the program described under § 123.22 and to meet the requirements of this Part. This statement shall include citations to the specific statutes, administrative regulations, and, where appropriate, judicial decisions which demonstrate adequate authority. State statutes and regulations cited by the State Attorney General or independent legal counsel shall be in the form of lawfully adopted State statutes and regulations at the time the statement is signed and shall be fully effective by the time the program is approved. To qualify as "independent legal counsel" the attorney signing the statement required by this section must have full authority to independently represent the State agency in court on all matters pertaining to the State program.

[Note.—EPA will supply States with an Attorney General's statement format on request.]

(b) If a State seeks authority over activities on Indian lands, the statement shall contain an appropriate analysis of the State's authority.

(c) The Attorney General's statement shall certify that the State has adequate legal authority to issue and enforce general permits if the State seeks to implement the general permit program under § 122.28.

§ 123.24 Memorandum of Agreement with the Regional Administrator.

(a) Any State that seeks to administer a program under this Part shall submit a Memorandum of Agreement. The Memorandum of Agreement shall be executed by the State Director and the Regional Administrator and shall become effective when approved by the Administrator. In addition to meeting the requirements of paragraph (b) of this section, the Memorandum of Agreement may include other terms, conditions, or agreements consistent with this Part and relevant to the administration and enforcement of the State's regulatory program. The Administrator shall not approve any Memorandum of Agreement which contains provisions which restrict EPA's statutory oversight responsibility.

(b) The Memorandum of Agreement shall include the following:

(1) Provisions for the prompt transfer from EPA to the State of pending permit applications and any other information relevant to program operation not already in the possession of the State Director (e.g., support files for permit issuance, compliance reports, etc.). If existing permits are transferred from EPA to the State for administration, the Memorandum of Agreement shall contain provisions specifying a procedure for transferring the administration of these permits. If a State lacks the authority to directly administer permits issued by the Federal government, a procedure may be established to transfer responsibility for these permits.

[Note.—For example, EPA and the State and the permittee could agree that the State would issue a permit(s) identical to the outstanding Federal permit which would simultaneously be terminated.]

(2) Provisions specifying classes and categories of permit applications, draft permits, and proposed permits that the State will send to the Regional Administrator for review, comment and, where applicable, objection.

(3) Provisions specifying the frequency and content of reports, documents and other information which the State is required to submit to EPA. The State shall allow EPA to routinely review State records, reports, and files relevant to the administration and enforcement of the approved program. State reports may be combined with grant reports where appropriate. These procedures shall implement the requirements of § 123.43.

(4) Provisions on the State's compliance monitoring and enforcement program, including:

(i) Provisions for coordination of compliance monitoring activities by the State and by EPA. These may specify the basis on which the Regional Administrator will select facilities or activities within the State for EPA inspection. The Regional Administrator will normally notify the State at least 7 days before any such inspection; and

(ii) Procedures to assure coordination of enforcement activities.

(5) When appropriate, provisions for joint processing of permits by the State and EPA for facilities or activities which require permits from both EPA and the State under different programs. (See § 124.4.)

[Note.—To promote efficiency and to avoid duplication and inconsistency, States are encouraged to enter into joint processing agreements with EPA for permit issuance. Likewise, States are encouraged (but not required) to consider steps to coordinate or consolidate their own permit programs and activities.]

(6) Provisions for modification of the Memorandum of Agreement in accordance with this Part.

(c) The Memorandum of Agreement, the annual program grant and the State/EPA Agreement should be consistent. If the State/EPA Agreement indicates that a change is needed in the Memorandum of Agreement, the Memorandum of Agreement may be amended through the procedures set forth in this part. The State/EPA Agreement may not override the Memorandum of Agreement.

[Note.—Detailed program priorities and specific arrangements for EPA support of the State program will change and are therefore more appropriately negotiated in the context of annual agreements rather than in the MOA. However, it may still be appropriate to specify in the MOA the basis for such detailed agreements, e.g., a provision in the MOA specifying that EPA will select facilities in the State for inspection annually as part of the State/EPA agreement.]

(d) The Memorandum of Agreement shall also specify the extent to which EPA will waive its right to review, object to, or comment upon State-issued permits under sections 402(d)(3), (e) or (f) of CWA. While the Regional Administrator and the State may agree to waive EPA review of certain "classes or categories" of permits, no waiver of review may be granted for the following discharges:

(1) Discharges into the territorial sea;

(2) Discharges which may affect the waters of a State other than the one in which the discharge originates;

(3) Discharges proposed to be regulated by general permits (see § 122.28);

(4) Discharges from publicly owned treatment works with a daily average discharge exceeding 1 million gallson per day;

(5) Discharges of uncontaminated cooling water with a daily average discharge exceeding 500 million gallons per day;

(6) Discharges from any major discharger or from any discharger within any of the 21 industrial categories listed in Appendix A to Part 122;

(7) Discharges from other sources with a daily average discharge exceeding 0.5 (one-half) million gallons per day, except that EPA review of permits for discharges of non-process wastewater may be waived regardless of flow.

(e) Whenever a waiver is granted under paragraph (d) of this section, the Memorandum of Agreement shall contain:

(1) A statement that the Regional Administrator retains the right to terminate the waiver as to future permit actions, in whole or in part, at any time by sending the State Director written notice of termination; and

(2) A statement that the State shall supply EPA with copies of final permits.

§ 123.25 Requirements for permitting.

(a) All State programs under this Part must have legal authority to implement each of the following provisions and must be administered in conformance with each; except that States are not precluded from omitting or modifying any provisions to impose more stringent requirements:

(1) § 122.4—(Prohibitons);

(2) § 122.5(a) and (b)—(Effect of permit);

(3) § 122.7(b)–(d)—(Confidential information);

(4) § 122.21(a)–(b), (e)–(j), and (l)–(o)—(Application for a permit);

(5) § 122.22—(Signatories);

(6) § 122.23—(Concentrated animal feeding operations);

(7) § 122.24—(Concentrated aquatic animal production facilities);

(8) § 122.25—(Aquaculture projects);

(9) § 122.26—(Separate storm sewers);

(10) § 122.27—(Silviculture);

(11) § 122.28—(General permits), *provided that* States which do not seek to implement the general permit program under § 122.28 need not do so.

(12) § 122.41—(Applicable permit conditions);

(13) § 122.42—(Conditions applicable to specified categories of permits).

(14) § 122.43—(Establishing permit conditions);

(15) § 122.44—(Establishing NPDES permit conditions);

(16) § 122.45—(Calculating permit conditions);

(17) § 122.46—(Duration);

(18) § 122.47(a)—(Schedules of compliance);

(19) § 122.48—(Monitoring requirements);

(20) § 122.50—(Disposal into wells);

(21) § 122.61—(Permit transfer);

(22) § 122.62—(Permit modification).

(23) § 122.64—(Permit termination);

(24) § 124.3(a)—(Application for a permit);

(25) § 124.5 (a), (c), (d), and (f)—(Modification of permits);

(26) § 124.6 (a), (c), (d), and (e)—(Draft permit);

(27) § 124.8—(Fact sheets);

(28) § 124.10 (a)(1)(ii), (a)(1)(iii), (a)(1)(v), (b), (c), (d), and (e)—(Public notice);

(29) § 124.11—(Public comments and requests for hearings);

(30) § 124.12(a)—(Public hearings); and

(31) § 124.17 (a) and (c)—(Response to comments);

(32) § 124.56—(Fact sheets);

(33) § 124.57(a)—(Public notice);

(34) § 124.59—(Comments from government agencies);

(35) § 124.62—(Decision on variances);

(36) Subparts A, B,C, D, H, I, J, K and L of Part 125; and

(37) 40 CFR Parts 129, 133, and Subchapter N.

[Note.—States need not implement provisions identical to the above listed provisions. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While States may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent; for example, by requiring that public hearings be held prior to issuing any permit while reducing the amount of advance notice of such a hearing.

State programs may, if they have adequate legal authority, implement any of the provisions of Parts 122 and 124. See, for example, § 122.5(d) (continuation of permits) and § 124.4 (consolidation of permit processing).

For example, a State may impose more stringent requirements in an NPDES program by omitting the upset provision of § 122.41 or by requiring more prompt notice of an upset.]

(b) State NPDES programs shall have an approved continuing planning process under 40 CFR 35.1500 and shall assure that the approved planning process is at all times consistent with CWA.

(c) State NPDES programs shall ensure that any board or body which approves all or portions of permits shall not include as a member any person who receives, or has during the previous 2 years received, a significant portion of income directly or indirectly from permit holders or applicants for a permit.

(1) For the purposes of this paragraph:

(i) "Board or body" includes any individual, including the Director, who has or shares authority to approve all or portions of permits either in the first instance, as modified or reissued, or on appeal.

(ii) "Significant portion of income" means 10 percent or more of gross personal income for a calendar year, except that it means 50 percent or more of gross personal income for a calendar year if the recipient is over 60 years of age and is receiving that portion under retirement, pension, or similar arrangement.

(iii) "Permit holders or applicants for a permit" does not include any department or agency of a State government, such as a Department of Parks or a Department of Fish and Wildlife.

(iv) "Income" includes retirement benefits, consultant fees, and stock dividends.

(2) For the purposes of paragraph (c) of this section, income is not received "directly or indirectly from permit holders or applicants for a permit" when it is derived from mutual fund payments, or from other diversified investments for which the recipient does not know the identity of the primary sources of income.

§ 123.26 Requirements for compliance evaluation programs.

(a) State programs shall have procedures for receipt, evaluation, retention and investigation for possible enforcement of all notices and reports required of permittees and other regulated persons (and for investigation for possible enforcement of failure to submit these notices and reports).

(b) State programs shall have inspection and surveillance procedures to determine, independent of information supplied by regulated persons, compliance or noncompliance with applicable program requirements. The State shall maintain:

(1) A program which is capable of making comprehensive surveys of all facilities and activities subject to the State Director's authority to identify persons subject to regulation who have failed to comply with permit application or other program requirements. Any compilation, index or inventory of such facilities and activities shall be made available to the Regional Administrator upon request;

(2) A program for periodic inspections of the facilities and activities subject to regulation. These inspections shall be conducted in a manner designed to:

(i) Determine compliance or noncompliance with issued permit conditions and other program requirements;

(ii) Verify the accuracy of information submitted by permittees and other regulated persons in reporting forms and other forms supplying monitoring data; and

(iii) Verify the adequacy of sampling, monitoring, and other methods used by permittees and other regulated persons to develop that information;

(3) A program for investigating information obtained regarding violations of applicable program and permit requirements; and

(4) Procedures for receiving and ensuring proper consideration of information submitted by the Public about violations. Public effort in reporting violations shall be encouraged and the State Director shall make available information on reporting procedures.

(c) The State Director and State officers engaged in compliance evaluation shall have authority to enter any site or premises subject to regulation or in which records relevant to program operation are kept in order to copy any records, inspect, monitor or otherwise investigate compliance with the State program including compliance with permit conditions and other program requirements. States whose law requires a search warrant before entry conform with this requirement.

(d) Investigatory inspections shall be conducted, samples shall be taken and other information shall be gathered in a manner (e.g., using proper "chain of custody" procedures) that will produce evidence admissible in an enforcement proceeding or in court.

(e) State NPDES compliance evaluation programs shall have procedures and ability for:

(1) Maintaining a comprehensive inventory of all sources covered by NPDES permits and a schedule of reports required to be submitted by permittees to the State agency;

(2) Initial screening (i.e., pre-enforcement evaluation) of all permit or grant-related compliance information to identify violations and to establish priorities for further substantive technical evaluation;

(3) When warranted, conducting a substantive technical evaluation following the initial screening of all permit or grant-related compliance information to determine the appropriate agency response;

(4) Maintaining a management information system which supports the compliance evaluation activities of this Part; and

(5) Inspecting the facilities of all major dischargers at least annually.

§ 123.27 Requirements for enforcement authority.

(a) Any State agency administering a program shall have available the following remedies for violations of State program requirements:

(1) To restrain immediately and effectively any person by order or by suit in State court from engaging in any unauthorized activity which is endangering or causing damage to public health or the environment;

[Note.—Paragraph (a)(1) requires that States have a mechanism (e.g., an administrative cease and desist order or the ability to seek a temporary restraining order) to stop any unauthorized activity endangering public health or the environment.]

(2) To sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of any program requirement, including permit conditions, without the necessity of a prior revocation of the permit;

(3) To assess or sue to recover in court civil penalties and to seek criminal remedies, including fines, as follows:

(i) Civil penalties shall be recoverable for the violation of any NPDES permit condition; any NPDES filing requirement; any duty to allow or carry out inspection, entry or monitoring activities; or, any regulation or orders issued by the State Director. These penalties shall be assessable in at least the amount of $5,000 a day for each violation.

(ii) Criminal fines shall be recoverable against any person who willfully or negligently violates any applicable standards or limitations; any NPDES permit condition; or any NPDES filing requirement. These fines shall be assessable in at least the amount of $10,000 a day for each violation.

[Note.—States which provide the criminal remedies based on "criminal negligence," "gross negligence" or strict liability satisfy the requirement of paragraph (a)(3)(iii)(B) of this section.]

(iii) Criminal fines shall be recoverable against any person who knowingly makes any false statement, representation or certification in any NPDES form, in any notice or report required by an NPDES permit, or who knowingly renders inaccurate any monitoring device or method required to be maintained by the Director. These fines shall be recoverable in at least the amount of $5,000 for each instance of violation.

[Note.—In many States the State Director will be represented in State courts by the State Attorney General or other appropriate legal officer. Although the State Director need not appear in court actions he or she should have power to request that any of the above actions be brought.]

(b)(1) The maximum civil penalty or criminal fine (as provided in paragraph (a)(3) of this section) shall be assessable for each instance of violation and, if the violation is continuous, shall be assessable up to the maximum amount for each day of violation.

(2) The burden of proof and degree of knowledge or intent required under State law for establishing violations under paragraph (a)(3) of this section, shall be no greater than the burden of proof or degree of knowledge or intent EPA must provide when it brings an action under the appropriate Act;

[Note.—For example, this requirement is not met if State law includes mental state as an element of proof for civil violations.]

(c) Any civil penalty assessed, sought or agreed upon by the State Director under paragraph (a)(3) of this section shall be appropriate to the violation. A civil penalty agreed upon by the State Director in settlement of administrative or judicial litigation may be adjusted by a percentage which represents the likelihood of success in establishing the underlying violation(s) in the litigation. If this civil penalty, together with the costs of expeditious compliance, would be so severely disproportionate to the resources of the violator as to jeopardize continuance in business, the payment of the penalty may be deferred or the penalty may be forgiven in whole or part, as circumstances warrant. In the case of a penalty for a failure to meet a statutory or final permit compliance deadline, "appropriate to the violation" as used in this paragraph, means a penalty which is equal to:

(1) An amount appropriate to redress the harm or risk to public health or the environment; plus

(2) An amount appropriate to remove the economic benefit gained or to be gained from delayed compliance; plus

(3) An amount appropriate as a penalty for the violator's degree of recalcitrance, defiance, or indifference to requirements of the law; plus

(4) An amount appropriate to recover unusual or extraordinary enforcement costs thrust upon the public; minus

(5) An amount, if any, appropriate to reflect any part of the noncompliance attributable to the government itself; and minus

(6) An amount appropriate to reflect any part of the noncompliance caused by factors completely beyond the violator's control (*e.g.*, floods, fires).

[Note.—In addition to the requirements of this paragraph, the State may have other enforcement remedies. The following enforcement options, while not mandatory, are highly recommended:

Procedures which enable the State to assess or to sue any persons responsible for unauthorized activities for any expenses incurred by the State in removing, correcting, or terminating any adverse effects upon human health and the environment resulting from the unauthorized activity, whether or not accidental;

Procedures which enable the State to sue for compensation for any loss or destruction of wildlife, fish or aquatic life, or their habitat, and for any other damages caused by unauthorized activity, either to the State or to any residents of the State who are directly aggrieved by the unauthorized activity, or both; and

Procedures for the administrative assessment of penalties by the Director.]

(d) Any State administering a program shall provide for public participation in the State enforcement process by providing either:

(1) Authority which allows intervention as of right in any civil or administrative action to obtain remedies specified in paragraphs (a)(1), (2) or (3) of this section by any citizen having an interest which is or may be adversely affected; or

(2) Assurance that the State agency or enforcement authority will:

(i) Investigate and provide written responses to all citizen complaints submitted pursuant to the procedures specified in § 123.26(b)(4);

(ii) Not oppose intervention by any citizen when permissive intervention may be authorized by statute, rule, or regulation; and

(iii) Publish notice of and provide at least 30 days for public comment on any proposed settlement of a State enforcement action.

§ 123.28 Control of disposal of pollutants into wells.

State law must provide authority to issue permits to control the disposal of pollutants into wells. Such authority shall enable the State to protect the public health and welfare and to prevent the pollution of ground and surface waters by prohibiting well discharges or by issuing permits for such discharges with appropriate permit terms and conditions. A program approved under section 1422 of SDWA satisfies the requirements of this section.

[Note.—States which are authorized to administer the NPDES permit program under section 402 of CWA are encouraged to rely on existing statutory authority, to the extent possible, in developing a State UIC program under section 1422 of SDWA. Section 402(b)(1)(D) of CWA requires that NPDES States have the authority "to issue permits which * * * control the disposal of pollutants into wells." In many instances, therefore, NPDES States will have existing statutory authority to regulate well disposal which satisfies the requirements of the UIC program. Note, however, that CWA excludes certain types of well injections from the definition of "pollutant." If the State's statutory authority contains a similar exclusion it may need to be modified to qualify for UIC program approval.]

§ 123.29 Prohibition.

State permit programs shall provide that no permit shall be issued when the Regional Administrator has objected in writing under § 123.44.

Subpart C—Transfer of Information and Permit Review

§ 123.41 Sharing of information.

(a) Any information obtained or used in the administration of a State program shall be available to EPA upon request without restriction. If the information has been submitted to the State under a claim of confidentiality, the State must submit that claim to EPA when providing information under this section. Any information obtained from a State and subject to a claim of confidentiality will be treated in accordance with the regulations in 40 CFR Part 2. If EPA obtains from a State information that is not claimed to be confidential, EPA may make that information available to the public without further notice.

(b) EPA shall furnish to States with approved programs the information in its files not submitted under a claim of confidentiality which the State needs to implement its approved program. EPA shall furnish to States with approved programs information submitted to EPA under a claim of confidentiality, which the State needs to implement its approved program, subject to the conditions in 40 CFR Part 2.

§ 123.42 Receipt and use of Federal information.

Upon approving a State permit program, EPA shall send to the State agency administering the permit program any relevant information which was collected by EPA. The Memorandum of Agreement under § 123.24 shall provide for the following, in such manner as the State Director and the Regional Administrator shall agree:

(a) Prompt transmission to the State Director from the Regional Administrator of copies of any pending permit applications or any other relevant information collected before the approval of the State permit program and not already in the possession of the State Director. When existing permits are transferred to the State Director (e.g., for purposes of compliance monitoring, enforcement or reissuance), relevant information includes support files for permit issuance, compliance reports and records of enforcement actions.

(b) Procedures to ensure that the State Director will not issue a permit on the basis of any application received from the Regional Administrator which the Regional Administrator identifies as incomplete or otherwise deficient until the State Director receives information sufficient to correct the deficiency.

§ 123.43 Transmission of information to EPA.

(a) Each State agency administering a permit program shall transmit to the Regional Administrator copies of permit program forms and any other relevant information to the extent and in the manner agreed to by the State Director and Regional Administrator in the Memorandum of Agreement and not inconsistent with this Part. Proposed permits shall be prepared by State agencies unless agreement to the contrary has been reached under § 123.44(j). The Memorandum of Agreement shall provide for the following:

(1) Prompt transmission to the Regional Administrator of a copy of all complete permit applications received by the State Director, except those for which permit review has been waived under § 123.24(d). The State shall supply EPA with copies of permit applications for which permit review has been waived whenever requested by EPA;

(2) Prompt transmission to the Regional Administrator of notice of every action taken by the State agency related to the consideration of any permit application or general permit, including a copy of each proposed or draft permit and any conditions, requirements, or documents which are related to the proposed or draft permit or which affect the authorization of the proposed permit, except those for which permit review has been waived under § 123.24(d). The State shall supply EPA with copies of notices for which permit review has been waived whenever requested by EPA; and

(3) Transmission to the Regional Administrator of a copy of every issued permit following issuance, along with any and all conditions, requirements, or documents which are related to or affect the authorization of the permit.

(b) The State shall transmit a copy of each draft general permit or proposed general permit, except those for separate storm sewers, to the EPA Director, Office of Water Enforcement and Permits at the same time the draft general permit or proposed general permit is transmitted to the Regional Administrator under paragraph (a)(2) of this section.

(c) The State program shall provide for transmission by the State Director to EPA of:

(1) Notices from publicly owned treatment works under § 122.42(b) and 40 CFR Part 403, upon request of the Regional Administrator;

(2) A copy of any significant comments presented in writing pursuant to the public notice of a draft permit and a summary of any significant comments presented at any hearing on any draft permit, except those comments regarding permits for which permit review has been waived under § 123.24(d) and for which EPA has not otherwise requested receipt, if:

(i) The Regional Administrator requests this information; or

(ii) The proposed permit contains requirements significantly different from those contained in the tentative determination and draft permit; or

(iii) Significant comments objecting to the tentative determination and draft permit have been presented at the hearing or in writing pursuant to the public notice.

(d) Any State permit program shall keep such records and submit to the Administrator such information as the Administrator may reasonably require to ascertain whether the State program complies with the requirements of CWA or of this Part.

§ 123.44 EPA Review of and objections to State permits.

(a)(1) The Memorandum of Agreement shall provide a period of time (up to 90 days from receipt of proposed permits) to which the Regional Administrator may make general comments upon, objections to, or recommendations with respect to proposed permits. EPA reserves the right to take 90 days to supply specific grounds for objection, notwithstanding any shorter period specified in the Memorandum of Agreement, when a general objection is filed within the review period specified in the Memorandum of Agreement. The Regional Administrator shall send a copy of any comment, objection or recommendation to the permit applicant.

(2) In the case of general permits, EPA shall have 90 days from the date of receipt of the proposed general permit to comment upon, object to or make recommendations with respect to the proposed general permit, and is not bound by any shorter time limits set by the Memorandum of Agreement for general comments, objections or recommendations. The EPA Director, Office of Water Enforcement and Permits may comment upon, object to, or make recommendations with respect to proposed general permits, except those for separate storm sewers, on EPA's behalf.

(b)(1) Within the period of time provided under the Memorandum of Agreement for making general comments upon, objections to or recommendations with respect to proposed permits, the Regional Administrator shall notify the State Director of any objection to issuance of a proposed permit (except as provided in paragraph (a)(2) of this section for proposed general permits). This notification shall set forth in writing the general nature of the objection.

(2) Within 90 days following receipt of a proposed permit to which he or she has objected under (b)(1) of this section, or in the case of general permits within 90 days after receipt of the proposed general permit, the Regional Administrator, or in the case of general permits other than for separate storm sewers, the Regional Administrator or the EPA Director, Office of Water Enforcement and Permits, shall set forth in writing and transmit to the State Director:

(i) A statement of the reasons for the objection (including the section of CWA or regulations that support the objection), and

(ii) The actions that must be taken by the State Director to eliminate the objection (including the effluent limitations and conditions which the permit would include if it were issued by the Regional Administrator.)

[Note.—Paragraphs (a) and (b) of this section, in effect, modify any existing agreement between EPA and the State which provides less than 90 days for EPA to supply the specific grounds for an objection. However, when an agreement provides for an EPA review period of less than 90 days, EPA must file a general objection, in accordance with paragraph (b)(1) of this section within the time specified in the agreement. This general objection must be followed by a specific objection within the 90-day period. This modification to MOA's allows EPA to provide detailed information concerning acceptable permit conditions, as required by section 402(d) of CWA. To avoid possible confusion, MOA's should be changed to reflect this arrangement.]

(c) The Regional Administrator's objection to the issuance of a proposed permit must be based upon one or more of the following grounds:

(1) The permit fails to apply, or to ensure compliance with, any applicable requirement of this Part;

[Note.—For example, the Regional Administrator may object to a permit not requiring the achievement of required effluent limitations by applicable statutory deadlines.]

(2) In the case of a proposed permit for which notification to the Administrator is required under section 402(b)(5) of CWA, the written recommendations of an affected State have not been accepted by the permitting State and the Regional Administrator finds the reasons for rejecting the recommendations are inadequate;

(3) The procedures followed in connection with formulation of the proposed permit failed in a material respect to comply with procedures required by CWA or by regulations thereunder or by the Memorandum of Agreement;

(4) Any finding made by the State Director in connection with the proposed permit misinterprets CWA or any guidelines or regulations under CWA, or misapplies them to the facts;

(5) Any provisions of the proposed permit relating to the maintenance of records, reporting, monitoring, sampling, or the provision of any other information by the permittee are inadequate, in the judgment of the Regional Administrator, to assure compliance with permit conditions, including effluent standards and limitations required by CWA, by the guidelines and regulations issued under CWA, or by the proposed permit;

(6) In the case of any proposed permit with respect to which applicable effluent standards and limitations under sections 301, 302, 306, 307, 318, 403 and 405 of CWA have not yet been promulgated by the Agency, the proposed permit, in the judgment of the Regional Administrator, fails to carry out the provisions of CWA or of any regulations issued under CWA; the provisions of this subparagraph apply to determinations made pursuant to § 125.3(c)(2) in the absence of applicable guidelines and to best management practices under section 304(e) of CWA, which must be incorporated into permits as requirements under sections 301, 306, 307, 318, 403 or 405, as the case may be;

(7) Issuance of the proposed permit would in any other respect be outside the requirements of CWA, or regulations issued under CWA.

(d) Prior to notifying the State Director of an objection based upon any of the grounds set forth in paragraph (b) of this section, the Regional Administrator:

(1) Shall consider all data transmitted pursuant to § 123.43;

(2) May, if the information provided is inadequate to determine whether the proposed permit meets the guidelines and requirements of CWA, request the State Director to transmit to the Regional Administrator the complete record of the permit proceedings before the State, or any portions of the record that the Regional Administrator determines are necessary for review. If this request is made within 30 days of receipt of the State submittal under § 123.43, it shall constitute an interim objection to the issuance of the permit, and the full period of time specified in the Memorandum of Agreement for the Regional Administrator's review shall recommence when the Regional Administrator has received such record or portions of the record; and

(3) May, in his or her discretion, and to the extent feasible within the period of time available under the Memorandum of Agreement, afford to interested persons an opportunity to comment on the basis for the objection;

(e) Within 90 days of receipt by the State Director of an objection by the Regional Administrator, the State or interstate agency or any interested person may request that a public hearing be held by the Regional Administrator on the objection. A public hearing in accordance with the procedures of §§ 124.12 (c) and (d) shall be held, and public notice provided in accordance with § 124.10, whenever requested by the State or the interstate agency which proposed the permit or if warranted by significant public interest based on requests received.

(f) A public hearing held under paragraph (e) of this section shall be conducted by the Regional Administrator, and, at the Regional Administrator's discretion, with the assistance of an EPA panel designated by the Regional Administrator, in an orderly and expeditious manner.

(g) Following the public hearing, the Regional Administrator shall reaffirm the original objection, modify the terms of the objection, or withdraw the objection, and shall notify the State of this decision.

(h)(1) If no public hearing is held under paragraph (e) of this section and the State does not resubmit a permit revised to meet the Regional Administrator's objection within 90 days of receipt of the objection, the Regional Administrator may issue the permit in accordance with Parts 121, 122, and 124 of this chapter and any other guidelines and requirements of CWA.

(2) If a public hearing is held under paragraph (e) of this section, the Regional Administrator does not withdraw the objection, and the State does not resubmit a permit revised to meet the Regional Administrator's objection or modified objection within 30 days of the date of the Regional Administrator's notification under paragraph (g) of this section, the Regional Administrator may issue the permit in accordance with Parts 121, 122, and 124 of this chapter and any other guidelines and requirements of CWA.

(3) Exclusive authority to issue the permit passes to EPA when the times set out in this paragraph expire.

(i) In the case of proposed general permits for discharges other than from separate storm sewers insert "or the EPA Director, Office of Water Enforcement and Permits" after "Regional Administrator" whenever it appears in paragraphs (c)–(h) of this section.

(j) The Regional Administrator may agree, in the Memorandum of Agreement under § 123.24, to review draft permits rather than proposed permits. In such a case, a proposed permit need not be prepared by the State and transmitted to the Regional Administrator for review in accordance with this section unless the State proposes to issue a permit which differs from the draft permit reviewed by the Regional Administrator, the Regional Administrator has objected to the draft permit, or there is significant public comment.

§ 123.45 Noncompliance and program reporting by the Director.

The Director shall prepare quarterly and annual reports as detailed below. When the State is the permit-issuing authority, the State Director shall submit any reports required under this section to the Regional Administrator. When EPA is the permit-issuing authority, the Regional Administrator shall submit any report required under this section to EPA Headquarters.

(a) *Quarterly reports.* The Director shall submit quarterly narrative reports for major facilities as follows:

(1) *Format.* The report shall use the following format:

(i) Provide a separate list on NPDES permittees which shall be subcategorized as non-POTWs, POTWs, and Federal permittees;

(ii) For facilities or activities with permits under more than one program, provide an additional listing combining information on noncompliance for each such facility;

(iii) Alphabetize each list by permittee name. When two or more permittees have the same name, the lowest permit number shall be entered first.

(iv) For each entry on a list, include the following information in the following order:

(A) Name, location, and permit number of the noncomplying permittee.

(B) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more of the kinds set forth in paragraph (a)(2) of this section. When a permittee has noncompliance of more than one kind under a single program, combine the information into a single entry for each such permittee.

(C) The date(s) and a brief description of the action(s) taken by the Director to ensure compliance.

(D) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution.

(E) Any details which tend to explain or mitigate the instance(s) of noncompliance.

(2) *Instances of noncompliance to be reported.* Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.

(i) *Failure to complete construction elements:* When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction (for example, award of a contract, preliminary plans), or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required element of the schedule within 30 days from the date a compliance schedule report is due under the permit.

(ii) *Modifications to schedules of compliance:* When a schedule of compliance in the permit has been modified under §§ 122.62 or 122.64 because of the permittee's noncompliance.

(iii) *Failure to complete or provide compliance schedule or monitoring reports:* When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress reports or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.

(iv) *Deficient reports:* When the required reports provided by the permittee are so deficient as to cause misunderstanding by the Director and thus impede the review of the status of compliance.

(v) *Noncompliance with other permit requirements:* Noncompliance shall be reported in the following circumstances:

(A) Whenever the permittee has violated a permit requirement (other than paragraph (a)(2) (i) or (ii) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit, or

(B) When the Director determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern of noncompliance is based on violations of monthly averages and excludes parameters for which there is continuous monitoring. This pattern includes any violation of the same requirement in two consecutive reporting periods, and any violation of one or more requirements in each of four consecutive reporting periods; or

(C) When the Director determines significant permit noncompliance or other significant event has occurred, such as a discharge of a toxic or hazardous substance by an NPDES facility.

(vi) *All other.* Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with permit requirements not otherwise reported under paragraph (a) of this section.

(b) *Annual reports for NPDES.*

(1) *Annual noncompliance report.* Statistical reports shall be submitted by the Director on nonmajor NPDES permittees indicating the total number reviewed, the number of noncomplying nonmajor permittees, the number of enforcement actions, and number of permit modifications extending compliance deadlines. The statistical information shall be organized to follow the types of noncompliance listed in paragraph (a) of this section.

(2) A separate list of nonmajor discharges which are one or more years behind in construction phases of the compliance schedule shall also be submitted in alphabetical order by name and permit number.

(c) *Schedule.*

(1) *For all quarterly reports.* On the last working day of May, August, November, and February, the State Director shall submit to the Regional Administrator information concerning noncompliance with NPDES permit requirements by major dischargers in the State in acordance with the following schedule. The Regional Administrator shall prepare and submit information for EPA issued permits to EPA Headquarters in accordance with the same schedule:

QUARTERS COVERED BY REPORTS ON NONCOMPLIANCE BY MAJOR DISCHARGERS

[Date for completion of reports]

January, February, and March	[1] May 31
April, May, and June	[1] August 31
July, August, and September	[1] November 30
October, November, and December	[1] February 28

[1] Reports must be made available to the public for inspection and copying on this date.

(2) *For all annual reports.* The period for annual reports shall be for the calendar year ending December 31, with reports completed and available to the public no more than 60 days later.

Subpart D—Program Approval, Revision, and Withdrawal

§ 123.61 Approval process.

(a) After determining that a State program submission is complete, EPA shall publish notice of the State's application in the **Federal Register**, and in enough of the largest newspapers in the State to attract statewide attention, and shall mail notice to persons known to be interested in such matters, including all persons on appropriate State and EPA mailing lists and all permit holders and applicants within the State. The notice shall:

(1) Provide a comment period of not less than 45 days during which interested members of the public may express their views on the State program;

(2) Provide for a public hearing within the State to be held no less than 30 days after notice is published in the **Federal Register**;

(3) Indicate the cost of obtaining a copy of the State's submission;

(4) Indicate where and when the State's submission may be reviewed by the public;

(5) Indicate when an interested member of the public should contact with any questions; and

(6) Briefly outline the fundamental aspects of the State's proposed program, and the process for EPA review and decision.

(b) Within 90 days of the receipt of a complete program submission under § 123.21 the Administrator shall approve or disapprove the program based on the requirements of this Part and of CWA and taking into consideration all comments received. A responsiveness summary shall be prepared by the Regional Office which identifies the public participation activities conducted, describes the matters presented to the public, summarizes significant comments received and explains the Agency's response to these comments.

(c) If the Administrator approves the State's program he or she shall notify the State and publish notice in the **Federal Register**. The Regional Administrator shall suspend the issuance of permits by EPA as of the date of program approval.

(d) If the Administrator disapproves the State program he or she shall notify the State of the reasons for disapproval and of any revisions or modifications to the State program which are necessary to obtain approval.

§ 123.62 Procedure for revision of State programs.

(a) Either EPA or the approved State may initiate program revision. Program revision may be necessary when the controlling Federal or State statutory or regulatory authority is modified or supplemented. The State shall keep EPA fully informed of any proposed modifications to its basic statutory or regulatory authority, its forms, procedures, or priorities.

(b) Revision of a State program shall be accomplished as follows:

(1) The State shall submit a modified program description, Attorney General's statement, Memorandum of Agreement, or such other documents as EPA determines to be necessary under the circumstances.

(2) Whenever EPA determines that the proposed program modification is substantial, EPA shall issue public notice and provide an opportunity to comment for a period of at least 30 days. The public notice shall be mailed to interested persons and shall be published in the **Federal Register** and in enough of the largest newspapers in the State to provide Statewide coverage. The public notice shall summarize the proposed revisions and provide for the opportunity to request a public hearing. Such a hearing will be held if there is significant public interest based on requests received.

(3) The Administrator shall approve or disapprove program revisions based on the requirements of this Part and of the CWA.

(4) A program revision shall become effective upon the approval of the Administrator. Notice of approval of any substantial revision shall be published in the **Federal Register**. Notice of approval of non-substantial program revisions may be given by a letter from the Administrator to the State Governor or his designee.

(c) States with approved programs shall notify EPA whenever they propose to transfer all or part of any program from the approved State agency to any other State agency, and shall identify any new division of responsibilities among the agencies involved. The new agency is not authorized to administer the program until approved by the Administrator under paragraph (b) of this section. Organizational charts required under § 123.22(b) shall be revised and resubmitted.

(d) Whenever the Administrator has reason to believe that circumstances have changed with respect to a State program, he may request, and the State shall provide, a supplemental Attorney General's statement, program description, or such other documents or information as are necessary.

(e) All new programs must comply with these regulations immediately upon approval. Any approved State section 402 permit program which requires revision to conform to this Part shall be so revised within one year of the date of promulgation of these regulations, unless a State must amend or enact a statute in order to make the required revision of State programs in which case the revision shall take place within two years, except that revision of State programs to implement the requirements of 40 CFR Part 403 (pretreatment) shall be accomplished as provided in 40 CFR 403.10. In addition, approved States shall submit, within 6 months, copies of their permit forms for EPA review and approval. Approved States shall also assure that permit applicants, other than POTWs, either (1) whose permits expire after November 30, 1980, or (2) whose permits expire before November 30, 1980 and who have not reapplied for a permit prior to April 30, 1980, submit, as part of their application, the information required under § 122.21 (d) and (h), as appropriate.

§ 123.63 Criteria for withdrawal of State programs.

(a) The Administrator may withdraw program approval when a State program no longer complies with the requirements of this Part, and the State fails to take corrective action. Such circumstances include the following:

(1) Where the State's legal authority no longer meets the requirements of this Part, including:

(i) Failure of the State to promulgate or enact new authorities when necessary; or

(ii) Action by a State legislature or court striking down or limiting State authorities.

(2) Where the operation of the State program fails to comply with the requirements of this Part, including:

(i) Failure to exercise control over activities required to be regulated under this Part, including failure to issue permits;

(ii) Issuance of permits which do not conform to the requirements of this Part; or

(iii) Failure to comply with the public participation requirements of this Part.

(3) Where the State's enforcement program fails to comply with the requirements of this Part, including:

(i) Failure to act on violations of permits or other program requirements;

(ii) Failure to seek adequate enforcement penalties or to collect administrative fines when imposed; or

(iii) Failure to inspect and monitor activities subject to regulation.

(4) Where the State program fails to comply with the terms of the Memorandum of Agreement required under § 123.24.

§ 123.64 Procedures for withdrawal of State programs.

(a) A state with a program approved under this Part may voluntarily transfer program responsibilities required by Federal law to EPA by taking the following actions, or in such other manner as may be agreed upon with the Administrator.

(1) The State shall give the Administrator 180 days notice of the proposed transfer and shall submit a plan for the orderly transfer of all relevant program information not in the possession of EPA (such as permits, permit files, compliance files, reports, permit applications) which are necessary for EPA to administer the program.

(2) Within 60 days of receiving the notice and transfer plan, the Administrator shall evaluate the State's transfer plan and shall identify any additional information needed by the Federal government for program administration and/or identify any other deficiencies in the plan.

(3) At least 30 days before the transfer is to occur the Administrator shall publish notice of the transfer in the **Federal Register** and in enough of the largest newspapers in the State to provide Statewide coverage, and shall mail notice to all permit holders, permit applicants, other regulated persons and other interested persons on appropriate EPA and State mailing lists.

(b) The following procedures apply when the Administrator orders the commencement of proceedings to determine whether to withdraw approval of a State program.

(1) *Order.* The Administrator may order the commencement of withdrawal proceedings on his or her own initiative or in response to a petition from an interested person alleging failure of the State to comply with the requirements of this Part as set forth in § 123.63. The Administrator shall respond in writing to any petition to commence withdrawal proceedings. He may conduct an informal investigation of the allegations in the petition to determine whether cause exists to commence proceedings under this paragraph. The Administrator's order commencing proceedings under this paragraph shall fix a time and place for the commencement of the hearing and shall specify the allegations against the State which are to be considered at the hearing. Within 30 days the State shall admit or deny these allegations in a written answer. The party seeking withdrawal of the State's program shall have the burden of coming forward with the evidence in a hearing under this paragraph.

(2) *Definitions.* For purposes of this paragraph the definitions of "Act," "Administrative Law Judge," "Hearing Clerk," and "Presiding Officer" in 40 CFR 22.03 apply in addition to the following:

(i) "Party" means the petitioner, the State, the Agency, and any other person whose request to participate as a party is granted.

(ii) "Person" means the Agency, the State and any individual or organization having an interest in the subject matter of the proceeding.

(iii) "Petitioner" means any person whose petition for commencement of withdrawal proceedings has been granted by the Administrator.

(3) *Procedures.* (i) The following provisions of 40 CFR Part 22 (Consolidated Rules of Practice) are applicable to proceedings under this paragraph:

(A) § 22.02—(use of number/gender);

(B) § 22.04(c)—(authorities of Presiding Officer);

(C) § 22.06—(filing/service of rulings and orders);

(D) § 22.09—(examination of filed documents);

(E) § 22.19(a), (b) and (c)—(prehearing conference);

(F) § 22.22—(evidence);

(G) § 22.23—(objections/offers of proof);

(H) § 22.25—(filing the transcript); and

(I) § 22.26—(findings/conclusions).

(ii) The following provisions are also applicable:

(A) Computation and extension of time.

(*1*) *Computation.* In computing any period of time prescribed or allowed in these rules of practice, except as otherwise provided, the day of the event from which the designated period begins to run shall not be included. Saturdays, Sundays, and Federal legal holidays shall be included. When a stated time expires on a Saturday, Sunday, or legal holiday, the stated time period shall be extended to include the next business day.

(*2*) *Extensions of time.* The Administrator, Regional Administrator, or Presiding Officer, as appropriate, may grant an extension of time for the filing of any pleading, document, or motion (*i*) upon timely motion of a party to the proceeding, for good cause shown, and after consideration of prejudice to other parties, or (*ii*) upon his own motion. Such a motion by a party may only be made after notice to all other parties, unless the movant can show good cause why serving notice is impracticable. The motion shall be filed in advance of the date on which the pleading, document or motion is due to be filed, unless the failure of a party to make timely motion for extension of time was the result of excusable neglect.

(3) The time for commencement of the hearing shall not be extended beyond the date set in the Administrator's order without approval of the Administrator.

(B) Ex parte discussion of proceeding. At no time after the issuance of the order commencing proceedings shall the Administrator, Regional Administrator, Judicial Officer, Regional Judicial Officer, Presiding Officer, or any other person who is likely to advise these officials in the decision on the case, discuss ex parte the merits of the proceeding with any interested person outside the Agency, with any Agency staff member who performs a prosecutorial or investigative function in such proceeding or a factually related proceeding, or with any representative of such person. Any ex parte memorandum or other communication addressed to the Administrator, Regional Administrator, Judicial Officer, Regional Judicial Officer, or the Presiding Officer during the pendency of the proceeding and relating to the merits thereof, by or on behalf of any party shall be regarded as argument made in the proceeding and shall be served upon all other parties. The other parties shall be given an opportunity to reply to such memorandum or communication.

(C) Intervention.

(*1*) *Motion.* A motion for leave to intervene in any proceeding conducted under these rules of practice must set forth the grounds for the proposed intervention, the position and interest of the movant and the likely impact that intervention will have on the expeditious progress of the proceeding. Any person already a party to the proceeding may file an answer to a motion to intervene, making specific reference to the factors set forth in the foregoing sentence and paragraph (b)(3)(ii)(C)(*3*) of this section, within ten (10) days after service of the motion for leave to intervene.

(*2*) However, motions to intervene must be filed within 15 days from the date the notice of the Administrator's order is first published.

(*3*) *Disposition.* Leave to intervene may be granted only if the movant demonstrates that (*i*) his presence in the proceeding would not unduly prolong or otherwise prejudice that adjudication of the rights of the original parties; (*ii*) the movant will be adversely affected by a final order; and (*iii*) the interests of the movant are not being adequately represented by the original parties. The intervenor shall become a full party to the proceeding upon the granting of leave to intervene.

(*4*) *Amicus curiae.* Persons not parties to the proceeding who wish to file briefs may so move. The motion shall identify the interest of the applicant and shall state the reasons why the proposed amicus brief is desirable. If the motion is granted, the Presiding Officer or Administrator shall issue an order setting the time for filing such brief. An amicus curiae is eligible to participate in any briefing after his motion is granted, and shall be served with all briefs, reply briefs, motions, and orders relating to issues to be briefed.

(D) Motions.

(*1*) *General.* All motions, except those made orally on the record during a hearing, shall (*i*) be in writing; (*ii*) state the grounds therefor with particularity; (*iii*) set forth the relief or order sought; and (*iv*) be accompanied by any affidavit, certificate, other evidence, or legal memorandum relied upon. Such motions shall be served as provided by (b)(4) of this section.

(*2*) *Response to motions.* A party's response to any written motion must be filed within ten (10) days after service of such motion, unless additional time is allowed for such response. The response shall be accompanied by any affidavit, certificate, other evidence, or legal memorandum relied upon. If no response is filed within the designated period, the parties may be deemed to have waived any objection to the granting of the motion. The Presiding Officer, Regional Administrator, or Administrator, as appropriate, may set a shorter time for response, or make such other orders concerning the disposition of motions as they deem appropriate.

(*3*) *Decision.* The Administrator shall rule on all motions filed or made after service of the recommended decision upon the parties. The Presiding Officer shall rule on all other motions. Oral argument on motions will be permitted where the Presiding Officer, Regional Administrator, or the Administrator considers it necessary or desirable.

(4) *Record of proceedings.* (i) The hearing shall be either stenographically reported verbatim or tape recorded, and thereupon transcribed by an official reporter designated by the Presiding Officer;

(ii) All orders issued by the Presiding Officer, transcripts of testimony, written statements of position, stipulations, exhibits, motions, briefs, and other written material of any kind submitted in the hearing shall be a part of the record and shall be available for inspection or copying in the Office of the Hearing Clerk, upon payment of costs. Inquiries may be made at the Office of the Administrative Law Judges, Hearing Clerk, 401 M Street, S.W., Washington, D.C. 20460;

(iii) Upon notice to all parties the Presiding Officer may authorize corrections to the transcript which involves matters of substance;

(iv) An original and two (2) copies of all written submissions to the hearing shall be filed with the Hearing Clerk;

(v) A copy of each submission shall be served by the person making the submission upon the Presiding Officer and each party of record. Service under this paragraph shall take place by mail or personal delivery;

(vi) Every submission shall be accompanied by an acknowledgement of service by the person served or proof of service in the form of a statement of the date, time, and manner of service and the names of the persons served, certified by the person who made service, and;

(vii) The Hearing Clerk shall maintain and furnish to any person upon request, a list containing the name, service address, and telephone number of all parties and their attorneys or duly authorized representatives.

(5) *Participation by a person not a party.* A person who is not a party may, in the discretion of the Presiding Officer, be permitted to make a limited appearance by making oral or written statement of his/her position on the issues within such limits and on such conditions as may be fixed by the Presiding Officer, but he/she may not otherwise participate in the proceeding.

(6) *Rights of parties.* (i) All parties to the proceeding may:

(A) Appear by counsel or other representative in all hearing and pre-hearing proceedings;

(B) Agree to stipulations of facts which shall be made a part of the record.

(7) *Recommended decision.* (i) Within 30 days after the filing of proposed findings and conclusions, and reply briefs, the Presiding Officer shall evaluate the record before him/her, the proposed findings and conclusions and any briefs filed by the parties and shall prepare a recommended decision, and shall certify the entire record, including the recommended decision, to the Administrator.

(ii) Copies of the recommended decision shall be served upon all parties.

(iii) Within 20 days after the certification and filing of the record and recommended decision, all parties may file with the Administrator exceptions to the recommended decision and a supporting brief.

(8) *Decision by Administrator.* (i) Within 60 days after the certification of the record and filing of the Presiding Officer's recommeded decision, the Administrator shall review the record before him and issue his own decision.

(ii) If the Administrator concludes that the State has administered the program in conformity with the appropriate Act and regulations his decision shall constitute "final agency action" within the meaning of 5 U.S.C. 704.

(iii) If the Administrator concludes that the State has not administered the

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program in conformity with the appropriate Act and regulations he shall list the deficiencies in the program and provide the State a reasonable time, not to exceed 90 days, to take such appropriate corrective action as the Administrator determines necessary.

(iv) Within the time prescribed by the Administrator the State shall take such appropriate corrective action as required by the Administrator and shall file with the Administrator and all parties a statement certified by the State Director that such appropriate corrective action has been taken.

(v) The Administrator may require a further showing in addition to the certified statement that corrective action has been taken.

(vi) If the State fails to take such appropriate corrective action and file a certified statement thereof within the time prescribed by the Administrator, the Administrator shall issue a supplementary order withdrawing approval of the State program. If the State takes such appropriate corrective action, the Administrator shall issue a supplementary order stating that approval of authority is not withdrawn.

(vii) The Administrator's supplementary order shall constitute final Agency action within the meaning of 5 U.S.C. 704.

(viii) Withdrawal of authorization under this section and the appropriate Act does not relieve any person from complying with the requirements of State law, nor does it affect the validity of actions by the State prior to withdrawal.

Part 144 is added to read as follows:

PART 144—UNDERGROUND INJECTION CONTROL PROGRAM

Subpart A—General Provisions

Sec.
144.1 Purpose and scope of Part 144.
144.2 Promulgation of Class II Programs for Indian lands.
144.3 Definitions.
144.4 Considerations under Federal law.
144.5 Confidentiality of information.
144.6 Classification of wells.
144.7 Identification of underground sources of drinking water and exempted aquifers.
144.8 Noncompliance and program reporting by the Director.

Subpart B—General Program Requirements

144.11 Prohibition of unauthorized injection.
144.12 Prohibition of movement of fluid into underground sources of drinking water.
144.13 Elimination of certain class IV wells.
144.14 Requirements for wells injecting hazardous waste.
144.15 Assessment of Class V wells.
144.16 Waiver of requirement by Director.

Subpart C—Authorization of Underground Injection by Rule

Sec.
144.21 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells.
144.22 Existing Class II enhanced recovery and hydrocarbon storage wells.
144.23 Class IV wells.
144.24 Class V wells.
144.25 Requiring a permit.
144.26 Inventory requirements.

Subpart D—Authorization by Permit

144.31 Authorization for a permit; authorization by permit.
144.32 Signatories to permit application and reports.
144.33 Area permits.
144.34 Emergency permits.
144.35 Effect of a permit.
144.36 Duration of permits.
144.37 Continuation of expiring permits.
144.38 Transfer of permits.
144.39 Modification or revocation and reissuance of permits.
144.40 Termination of permits.
144.41 Minor modifications of permits.

Subpart E—Permit Conditions

144.51 Conditions applicable to all permits.
144.52 Establishing permit conditions.
144.53 Schedule of Compliance.
144.54 Requirements for recording and reporting of monitoring results.
144.55 Corrective action.

Authority: Pub. L. 93-523, as amended by Pub. L. 95-190, Pub. L. 96-63 and Pub. L. 96-502, 42 USC 300f *et seq.*

Subpart A—General Provisions

§ 144.1 Purpose and scope of Part 144.

(a) *Contents of Part 144.* The regulations in this Part set forth requirements for the Underground Injection Control (UIC) Program promulgated under Part C of the Safe Drinking Water Act (SDWA) (Pub. L. 93-523, as amended by Pub. L. 95-190, 42 U.S.C. 300f et seq.) and, to the extent that they deal with hazardous waste, the Resource Conservation and Recovery Act (RCRA) (Pub. L. 94-580 as amended by Pub. L. 95-609, Pub. L. 96-510, 42 U.S.C. 6901 et seq.). They apply to EPA, and to approved States to the extent set forth in Part 145.

(b) *Authority.*

(1) Section 1421 of SDWA requires the Administrator to promulgate regulations establishing minimum requirements for effective UIC programs.

(2) Section 1422 of SDWA requires the Administrator to list in the Federal Register "each State for which in his judgment a State underground injection control program may be necessary to assure that underground injection will not endanger drinking water sources" and to establish by regulation a program for EPA administration of UIC programs in the absence of an approved State program in a listed State.

(3) Section 1423 of SDWA provides procedures for EPA enforcement of UIC requirements.

(4) Section 1431 authorizes the Administrator to take action to protect the health of persons when a contaminant which is present in or may enter a public water system may present an imminent and substantial endangerment to the health of persons.

(5) Section 1445 of SDWA authorizes the promulgation of regulations for such recordkeeping, reporting, and monitoring requirements "as the Administrator may reasonably require * * * to assist him in establishing regulations under this title," and a "right of entry and inspection to determine compliance with this title, including for this purpose, inspection, at reasonable time, or records, files, papers, processes, controls, and facilities * * *."

(6) Section 1450 of SDWA authorizes the Administrator "to prescribe such regulations as are necessary or appropriate to carry out his functions" under SDWA.

(c) *Overview of the UIC program.* An UIC program is necessary in any State listed by EPA under section 1422 of the SDWA. Because all States have been listed, the SDWA requires all States to submit an UIC program within 270 days after July 24, 1980, the effective date of 40 CFR Part 146, which was the final element of the UIC minimum requirements to be originally promulgated, unless the Administrator grants an extension, which can be for a period not to exceed an additional 270 days. If a State fails to submit an approvable program, EPA will establish a program for that State. Once a program is established, SDWA provides that all underground injections in listed States are unlawful and subject to penalties unless authorized by a permit or a rule. This Part sets forth the requirements governing all UIC programs, authorizations by permit or rule and prohibits certain types of injection. The technical regulations governing these authorizations appear in 40 CFR Part 146.

(d) *Structure of the UIC Program.*

(1) *Part 144.* This part sets forth the permitting and other program requirements that must be met by UIC Programs, whether run by a State or by EPA. It is divided into the following subparts:

(i) Subpart A describes general elements of the program, including definitions and classifications.

(ii) Subpart B sets forth the general program requirements, including the performance standards applicable to all injection activities, basic elements that all UIC programs must contain, and provisions for waiving permit of rule requirements under certain circumstances.

(iii) Subpart C sets forth requirements for wells authorized by rule.

(iv) Subpart D sets forth permitting procedures.

(v) Subpart E sets forth specific conditions, or types of conditions, that must at a minimum be included in all permits.

(2) *Part 145.* While Part 144 sets forth minimum requirements for all UIC Programs, these requirements are specifically indentified as elements of a State application for primacy to administer an UIC Program in Part 145. Part 145 also sets forth the necessary elements of a State submission and the procedural requirements for approval of State programs.

(3) *Part 124.* The public participation requirements that must be met by UIC Programs, whether administered by the State or by EPA, are set forth in Part 124. EPA must comply with all Part 124 requirements; State administered programs must comply with Part 124 as required by Part 145. These requirements carry out the purposes of the public participation requirement of 40 CFR Part 25 (Public Participation), and supersede the requirements of that Part as they apply to the UIC Program.

(4) *Part 146.* This part set forth the technical criteria and standards that must be met in permits and authorizations by rule as required by Part 144.

(e) *Scope of the Permit or Rule Requirement.*

The UIC Permit Program regulates underground injections by five classes of wells (see definition of "well injection," § 144.3). The five classes of wells are set forth in § 144.6. All owners or operators of these injection wells must be authorized either by permit or rule by the Director. In carrying out the mandate of the SDWA, this subpart provides that no injection shall be authorized by permit or rule if it results in the movement of fluid containing any contaminant into Underground Sources of Drinking Water (USDWs—see § 144.3 for definition), if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may adversely affect the health of persons (§ 144.12). Existing Class IV wells which inject hazardous waste directly into an underground source of drinking water are to be eliminated over a period of six months and new such Class IV wells are to be prohibited (§ 144.13). Class V wells will be inventoried and assessed and regulatory action will be established at a later date.

In the meantime, if remedial action appears necessary, an individual permit may be required (§ 144.25) or the Director must require remedial action or closure by order (§ 144.12(c)). During UIC program development, the Director may identify aquifers and portions of aquifers which are actual or potential sources of drinking water. This will provide an aid to the Director in carrying out his or her duty to protect all USDWs. An aquifer is a USDW if it fits the definition, even if it has not been "identified." The Director may also designate "exempted aquifers" using criteria in § 146.04. Such aquifers are those which would otherwise qualify as "underground sources of drinking water" to be protected, but which have no real potential to be used as drinking water sources. Therefore, they are not USDWs. No aquifer is an "exempted aquifer" until it has been affirmatively designated under the procedures in § 144.7. Aquifers which do not fit the definition of "underground sources of drinking water" are not "exempted aquifers." They are simply not subject to the special protection afforded USDWs.

(1) *Specific inclusions.* The following wells are included among those types by injection activities which are covered by the UIC regulations. (This list is not intended to be exclusive but is for clarification only.)

(i) Any injection well located on a drilling platform inside the State's territorial waters.

(ii) Any dug hole or well that is deeper than its largest surface dimension, where the principal function of the hole is emplacement of fluids.

(iii) Any septic tank or cesspool used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste.

(iv) Any septic tank, cesspool, or other well used by a multiple dwelling, community, or Regional system for the injection of wastes.

(2) Specific exclusions. The following are not covered by these regulations:

(i) Injection wells located on a drilling platform or other site that is beyond the State's territorial waters.

(ii) Individual or single family residential waste disposal systems such as domestic cesspools or septic systems.

(iii) Non-residential cesspools, septic systems or similar waste disposal systems if such systems (A) are used solely for the disposal of sanitary waste, and (B) have the capacity to serve fewer than 20 persons a day.

(iv) Injection wells used for injection of hydrocarbons which are of pipeline quality and are gases at standard temperature and pressure for the purpose of storage.

(v) Any dug hole which is not used for emplacement of fluids underground.

(3) The prohibition applicable to Class IV wells under § 144.13 does not apply to injections of hazardous wastes into aquifers or portions thereof which have been exempted pursuant to § 146.04.

§ 144.2 Promulgation of Class II Programs for Indian Lands.

Notwithstanding the requirements of this Part or Parts 124 and 146 of this chapter, the Administrator may promulgate an alternate UIC Program for Class II wells on any Indian reservation or Indian lands. In promulgating such a program the Administrator shall consider the following factors:

(a) The interest and preferences of the tribal government having responsibility for the given reservation or Indian lands;

(b) The consistency between the alternate program and any program in effect in an adjoining jurisdiction; and

(c) Such other factors as are necessary and appropriate to carry out the Safe Drinking Water Act.

§ 144.3 Definitions.

Terms not defined in this section have the meaning given by the appropriate Act. When a defined term appears in a definition, the defined term is sometimes placed within quotation marks as an aid to readers.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in approved States, including any approved modifications or revisions.

Appropriate Act and regulations means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA); or Safe Drinking Water Act (SDWA), whichever is applicable; and applicable regulations promulgated under those statutes.

Approved State Program means a State UIC program administered by the State that has been approved by EPA according to SDWA § 1422.

Aquifer means a geological "formation," group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

Area of Review means the area surrounding an injection well described

FOLLOWING MISSING PAGES, 14191 through 14262 are non-NPDES Regs.

packaging, labeling, marking, and placarding).

§ 271.131 Progress reports.

The State Director shall submit a semi-annual progress report to the EPA Regional Administrator within 4 weeks of the date 6 months after Phase I commences, and at 6-month intervals thereafter until the expiration of interim authorization. The reports shall briefly summarize, in a manner and form prescribed by the Regional Administrator, the State's compliance in meeting the requirements of the authorization plan, the reasons and proposed remedies for any delay in meeting milestones, and the anticipated problems and solutions for the next reporting period.

§ 271.132 Sharing of information.

(a) Any information obtained or used in the administration of a State program shall be available to EPA upon request without restriction. If the information has been submitted to the State under a claim of confidentiality, the State must submit that claim to EPA when providing information under this subpart. Any information obtained from a State and subject to a claim of confidentiality will be treated in accordance with the regulations in 40 CFR Part 2. If EPA obtains from a State information that is not claimed to be confidential, EPA may make that information available to the public without further notice.

(b) EPA shall furnish to States with approved programs the information in its files not submitted under a claim of confidentiality which the State needs to implement its approved program. EPA shall furnish to States with approved programs information submitted to EPA under a claim of confidentiality, which the States needs to implement its approved program, subject to the conditions in 40 CFR Part 2.

§ 271.133 Coordination with other programs.

(a) Issuance of State permits under this part may be coordinated, as provided in Part 124, with issuance of UIC, NPDES, and 404 permits whether they are controlled by the State, EPA or the Corps of Engineers. See § 124.4.

(b) The State Director of any approved program which may effect the planning for the development of hazardous waste management facilities and practices shall consult and coordinate with agencies designated under section 4006(b) of RCRA (40 Part 255) as responsible for the development and implementation of State and solid waste management plans under section 4002(b) of RCRA (40 CFR Part 256).

§ 271.134 EPA review of State permits.

(a) The Regional Administrator may comment on permit applications and draft permits as provided in the Memorandum of Agreement under § 271.128.

(b) Where EPA indicates, in a comment, that issuance of the permit would be inconsistent with the approved State program, EPA shall include in the comment:

(1) A statement of the reasons for the comment (including the section of RCRA or regulations promulgated thereunder that support the comment); and

(2) The actions that should be taken by the State Director in order to address the comments (including the conditions which the permit would include if it were issued by the Regional Administrator).

(c) A copy of any comment shall be sent to the permit applicant by Regional Administrator.

(d) The Regional Administrator shall withdraw such a comment when satisfied that the State has met or refuted his or her concerns.

(e) Under Section 3008(a)(3) of RCRA, EPA may terminate a State-issued permit in accordance with the procedures of Part 124, Subpart E, or bring an enforcement action in accordance with the procedures of 40 CFR Part 22 in the case of a violation of a State program requirement. In exercising these authorities, EPA will observe the following conditions:

(1) The Regional Administrator may take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit at any time on the ground that permittee is not complying with a condition of that permit.

(2) The Regional Administrator may take action under Section 3008(a)(3) of RCRA against a holder of a State-issued permit at any time on the ground that the permittee is not complying with a condition that the Regional Administrator in commenting on the permit application or draft permit stated was necessary to implement approved State program requirements, whether or not that condition was included in the final permit.

(3) The Regional Administrator may not take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit on the ground that the permittee is not complying with a condition necessary to implement approved State program requirements unless the Regional Administrator stated in commenting on the permit application or draft permit that the condition was necessary.

(4) The Regional Administrator may take action under Section 7003 of RCRA against a permit holder at any time whether or not the permit holder is complying with permit conditions.

§ 271.135 Approval process.

(a) Within 30 days of receipt of a complete program submission for Phase I or for a component of Phase II of interim authorization, the Regional Administrator shall:

(1) Issue notice in the **Federal Register** and in accordance with § 271.20(a)(1) of a public hearing on the State's application for interim authorization. Such public hearing will be held by EPA no earlier than 30 days after notice of the hearing, provided that if significant public interest in a hearing is not expressed, the hearing may be cancelled if a statement to this effect is included in the public notice. The State shall participate in any public hearing held by EPA.

(2) Afford the public 30 days after the notice to comment on the State's submission; and

(3) Note the availability of the State's submission for inspection and copying by the public. The State submission shall, at a minimum, be available in the main office of the lead State agency and in the EPA Regional Office.

(b) Within 90 days of the notice in the **Federal Register** required by paragraph (a)(1) of this section, the Administrator shall make a final determination whether or not to approve the State's program, taking into account any comments submitted. The Administrator will give notice of this final determination in the **Federal Register** and in accordance with § 271.20(a)(1). The notification shall include a concise statement of the reasons for this determination, and a response to significant comments received.

(c) Where a State has received interim authorization for Phase I or for Phase I and for some, but not all, components of Phase II, the same procedures required in paragraphs (a) and (b) of this section shall be used in determining whether the amended program submission meets the requirements of the Federal Program.

§ 271.136 Withdrawal of State programs.

(a) The criteria and procedures for withdrawal set forth in §§ 271.22 and 271.23 apply to this section.

(b) In addition to the criteria in § 271.22, State program approval may be withdrawn if a State which has obtained interim authorization fails to meet the schedule for or accomplish the additions or revisions of its program set forth in its authorization plan.

§ 271.137 Reversion of State programs.

(a) A State program approved for interim authorization for Phase I or for Phase I and some but not all components of Phase II shall terminate on the last day of the 6th month after the effective date of the last component of Phase II, and EPA shall administer and enforce the Federal program in the State commencing on that date if the State has failed to submit by that date an amended submission pursuant to § 271.122(c)(4). The Regional Administrator may extend this deadline for good cause.

(b) A State program approved for interim authorization for Phase I or for Phase I and for some but not all components of Phase II shall terminate and EPA shall administer and enforce the Federal program in the State if the Regional Administrator determines pursuant to § 271.135(c) that a program submission amended pursuant to § 271.122(c)(4) does not meet the requirements of the Federal program.

Part 124 is revised to read as follows:

PART 124—PROCEDURES FOR DECISIONMAKING

Subpart A—General Program Requirements

Sec.
124.1 Purpose and scope.
124.2 Definitions.
124.3 Application for a permit.
124.4 Consolidation of permit processing.
124.5 Modification, revocation and reissuance, or termination of permits.
124.6 Draft permit.
124.7 Statement of basis.
124.8 Fact sheet.
124.9 Administrative record for draft permits when EPA is the permitting authority.
124.10 Public notice of permit actions and public comment period.
124.11 Public comments and requests for public hearings.
124.12 Public hearings.
124.13 Obligation to raise issues and provide information during the public comment period.
124.14 Reopening of the public comment period.
124.15 Issuance and effective date of permit.
124.16 Stays of contested permit conditions.
124.17 Response to comments.
124.18 Administrative record for final permit when EPA is the permitting authority.
124.19 Appeal of RCRA, UIC and PSD permits.
124.20 Computation of time.
124.21 Effective date of Part 124.

Subpart B—Specific Procedures Applicable to RCRA Permits [Reserved]

Subpart C—Specific Procedures Applicable to PSD Permits

Sec.
124.41 Definitions applicable to PSD permits.
124.42 Additional procedures for PSD permits affecting Class I areas.

Subpart D—Specific Procedures Applicable to NPDES Permits

124.51 Purpose and scope.
124.52 Permits required on a case-by-case basis.
124.53 State certification.
124.54 Special provisions for State certification and concurrence on applications for section 301(h) variances.
124.55 Effect of State certification.
124.56 Fact sheets.
124.57 Public notice.
124.58 Special procedures for EPA-issued general permits for point sources other than separate storm sewers.
124.59 Conditions requested by the Corps of Engineers and other government agencies.
124.60 Issuance and effective date and stays of NPDES permits.
124.61 Final environmental impact statement.
124.62 Decision on variances.
124.63 Procedures for variances when EPA is the permitting authority.
124.64 Appeal of variances.
124.65 Special procedures for discharge into marine waters under section 301(h).
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Subpart E—Evidentiary Hearing for EPA-Issued NPDES Permits and EPA-Terminated RCRA Permits

124.71 Applicability.
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124.73 Filing and submission of documents.
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124.77 Notice of hearing.
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124.79 Additional parties and issues.
124.80 Filing and service.
124.81 Assignment of Administrative Law Judge.
124.82 Consolidation and severance.
124.83 Prehearing conferences.
124.84 Summary determination.
124.85 Hearing procedure.
124.86 Motions.
124.87 Record of hearings.
124.88 Proposed findings of fact and conclusions; brief.
124.89 Decisions.
124.90 Interlocutory appeal.
124.91 Appeal to the Administrator.

Subpart F—Non-Adversary Panel Procedures

Sec.
124.111 Applicability.
124.112 Relation to other Subparts.
124.113 Public notice of draft permits and public comment period.
124.114 Request for hearing.
124.115 Effect of denial of or absence of request for hearing.
124.116 Notice of hearing.
124.117 Request to participate in hearing.
124.118 Submission of written comments on draft permit.
124.119 Presiding Officer.
124.120 Panel hearing.
124.121 Opportunity for cross-examination.
124.122 Record for final permit.
124.123 Filing of brief, proposed findings of fact and conclusions of law and proposed modified permit.
124.124 Recommended decision.
124.125 Appeal from or review of recommended decision.
124.126 Final decision.
124.127 Final decision if there is no review.
124.128 Delegation of authority; time limitations.

Appendix A to Part 124—Guide to Decisionmaking under Part 124.

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*; Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*; Clean Water Act, 33 U.S.C. 1251 *et seq.*; and Clean Air Act, 42 U.S.C. 1857 *et seq.*

Subpart A—General Program Requirements

§ 124.1 Purpose and scope.

(a) This Part contains EPA procedures for issuing, modifying, revoking and reissuing, or terminating all RCRA, UIC, PSD and NPDES "permits" other than RCRA and UIC "emergency permits" (see §§ 270.61 and 144.34) and RCRA "permits by rule" (§ 270.60). The latter kinds of permits are governed by Part 270. RCRA interim status and UIC authorization by rule are not "permits" and are covered by specific provisions in Parts 144, Subpart C, and 270. This Part also does not apply to permits issued, modified, revoked and reissued or terminated by the Corps of Engineers. Those procedures are specified in 33 CFR Parts 320–327.

(b) Part 124 is organized into six subparts. Subpart A contains general procedural requirements applicable to all permit programs covered by these regulations. Subparts B through F supplement these general provisions with requirements that apply to only one or more of the programs. Subpart A describes the steps EPA will follow in receiving permit applications, preparing draft permits, issuing public notice, inviting public comment and holding public hearings on draft permits. Subpart A also covers assembling an administrative record, responding to comments, issuing a final permit decision, and allowing for administrative appeal of the final permit decision. Subpart B is reserved for specific procedural requirements for RCRA permits. There are none of these at present but they may be added in the future. Subpart C contains definitions and specific procedural requirements for PSD permits. Subpart D applies to NPDES permits until an evidentiary hearing begins, when Subpart E procedures take over for EPA-issued NPDES permits and EPA-terminated RCRA permits. Subpart F, which is based on the "initial licensing" provisions of the Administrative Procedure Act (APA), can be used instead of Subparts A through E in appropriate cases.

(c) Part 124 offers an opportunity for three kinds of hearings: a public hearing under Subpart A, an evidentiary hearing under Subpart E, and a panel hearing under Subpart F. This chart describes when these hearings are available for each of the five permit programs.

HEARINGS AVAILABLE UNDER THIS PART

Programs	Subpart		
	(A)	(E)	(F)
	Public hearing	Evidentiary hearing	Panel hearing
RCRA	On draft permit, at Director's discretion or on request (§ 124.12).	(1) Permit termination (RCRA section 3008). (2) With NPDES evidentiary hearing (§ 124.74(b)(2))	(1) At RA's discretion in lieu of public hearing (§§ 124.12 and 124.111(a)(3)). (2) When consolidated with NPDES draft permit processed under Subpart F (§ 124.111(a)(1)(i)).
UIC	On draft permit, at Director's discretion or on request (§ 124.12).	With NPDES evidentiary hearing (§ 124.74(b)(2)).	(1) At RA's discretion in lieu of public hearing (§§ 124.12 and 124.111(a)(3)). (2) When consolidated with NPDES draft permit processed under Subpart F (§ 124.111(a)(1)(i))
PSD	On draft permit, at Director's discretion or on request (§ 124.12)	Not available (§ 124.71(c))	When consolidated with NPDES draft permit processed under Subpart F if RA determines that CAA one year deadline will not be violated.
NPDES (other than general permit)	On draft permit, at Director's discretion or on request (§ 124.12)	(1) On request to challenge any permit condition or variance (§ 124.74) (2) At RA's discretion for any 301(h) request (§ 124.64(b)).	(1) At RA's discretion when first decision on permit or variance request (§ 124.111). (2) At RA's discretion when request for evidentiary hearing is granted under § 124.75(a)(2) (§§ 124.74(c)(8) and 124.111(a)(2)). (3) At RA's discretion for any 301(h) request (§ 124.64(b)).
NPDES (general permit)	On draft permit, at Director's discretion or on request (§ 124.12)	Not available (§ 124.71(a))	At RA's discretion in lieu of public hearing (§ 124.111(a)(3)).
404	On draft permit or on application when no draft permit, at Director's discretion or on request (§ 124.12)	Not available (§ 124.71)	Not available (§ 124.111)

(d) This Part is designed to allow permits for a given facility under two or more of the listed programs to be processed separately or together at the choice of the Regional Administrator. This allows EPA to combine the processing of permits only when appropriate, and not necessarily in all cases. The Regional Administrator may consolidate permit processing when the permit applications are submitted, when draft permits are prepared, or when final permit decisions are issued. This Part also allows consolidated permits to be subject to a single public hearing under § 124.12, a single evidentiary hearing under § 124.75, or a single non-adversary panel hearing under § 124.120. Permit applicants may recommend whether or not their applications should be consolidated in any given case.

(e) Certain procedural requirements set forth in Part 124 must be adopted by States in order to gain EPA approval to operate RCRA, UIC, NPDES, and 404 permit programs. These requirements are listed in §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA) and signaled by the following words at the end of the appropriate Part 124 section or paragraph heading: *(applicable to State programs see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA)).* Part 124 does not apply to PSD permits issued by an approved State.

(f) To coordinate decisionmaking when different permits will be issued by EPA and approved State programs, this Part allows applications to be jointly processed, joint comment periods and hearings to be held, and final permits to be issued on a cooperative basis whenever EPA and a State agree to take such steps in general or in individual cases. These joint processing agreements may be provided in the Memorandum of Agreement developed under §§ 123.24 (NPDES), 145.24 (UIC), 233.24 (404), and 271.8 (RCRA).

§ 124.12 Definitions.

(a) In addition to the definitions given in §§ 122.2 and 123.2 (NPDES), 144.3 and 145.2 (UIC), 233.3 (404), and 270.2 and 271.2 (RCRA), the definitions listed below apply to this Part, except for PSD permits which are governed by the definitions in § 124.41. Terms not defined in this section have the meaning given by the appropriate Act.

Administrator means the Administrator of the U.S. Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations (NPDES) means all State, interstate, and Federal standards and limitations to which a "discharge" or a related activity in subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in "approved States," including any approved modifications or revisions. For RCRA, application also includes the information required by the Director under § 270.14–270.29 [contents of Part B of the RCRA application].

Appropriate Act and regulations means the Clean Water Act (CWA); the Solid Waste Disposal Act, as amended by the Resource Conservation Recovery Act (RCRA); or Safe Drinking Water Act (SDWA), whichever is applicable; and applicable regulations promulgated under those statutes. In the case of an "approved State program" appropriate

Act and regulations includes program requirements.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act of Federal Pollution Control Act Amendments of 1972) Pub. L. 92–500, as amended by Pub. L. 95–217 and Pub. L. 95–576; 33 U.S.C. 1251 et seq.

Director means the Regional Administrator or the State Director, as the context requires, or an authorized representative. When there is no "approved State program," and there is an EPA administered program, "Director" means the Regional Administrator. When there is an approved State program, "Director" normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. (For example, when EPA has issued an NPDES permits prior to the approval of a State program, EPA may retain jurisdiction over that permit after program approval; see § 123.1) In such cases, the term "Director means the Regional Administrator and not the State Director.

Draft permit means a document prepared under §124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit and a notice of intent to deny a permit as discussed in § 124.5, are types of "draft permits." A denial of a request for modification, revocation and reissuance or termination, as discussed in §124.5, is not a "draft permit." A "proposal permit" is not a "draft permit."

EPA ("EPA") means the United States "Environmental Protection Agency."

Facility or activity means any "HWM facility," UIC "injection well," NPDES "point source," or State 404 dredge or fill activity, or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the RCRA, UIC, NPDES, or 404 programs.

General Permit (NPDES and 404) means an NPDES or 404 "permit" authorizing a category of discharges under the CWA within a geographical area. For NPDES, a general permit means a permit issued under § 122.28. For 404, a general permit means a permit issued under § 233.37.

Interstate Agency means an agency of two or more States established by or under an agreement or compact approved by the Congress, or any other agency of two or more States having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator under the "appropriate Act and regulations."

Major Facility means any RCRA, UIC, NPDES, or 404 "facility or activity" classified as such by the Regional Administrator, or, in the case of "approved State programs," the Regional Administrator in conjunction with the State Director.

NPDES means National Pollutant Discharge Elimination System.

Owner or Operator means owner or operator of any "facility or activity" subject to regulation under the RCRA,UIC, NPDES, or 404 programs.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this Part and Parts 122, 123, 144, 145, 233, 270, and 271. "Permit" includes RCRA "permit by rule" (Section 270.60), UIC area permit (Section 144.33), NPDES or 404 "general permit" (Sections 270.61, 144.34, and 233.38). Permit does not include RCRA interim status (Section 270.70), UIC authorization by rule (Section 144.21), or any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agency or employee thereof.

RCRA means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94–580, as amended by Pub. L. 95–609, 42 U.S.C. Section 6901 et seq).

Regional Administrator means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.

Schedule of compliance means a schedule of remedial measures included in a "permit," including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the "appropriate Act and regulations."

SDWA means the Safe Drinking Water Act (Pub. L. 95–523, as amended by Pub. L. 95–1900; 42 U.S.C. 300f et seq).

Section 404 program or State 404 program or 404 means an "approved State program" to regulate the "discharge of dredged material" and the "discharge of fill material" under Section 404 of the Clean Water Act in "State regulated waters."

Site means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

State means any of the 50 states, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands (except in the case of RCRA), and the Commonwealth Northern Mariana Islands (except in the case of CWA).

State Director means the chief administrative officer of any State or interstate agency operating an "approved program," or the delegated representative of the state Director. If responsibility is divided among two or more State or interstate agencies, "State Director" means the chief administrative officer of the State or interstate agency authorized to perform the particular procedure or function to which reference is made.

UIC means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including an "approved program."

Variance (NPDES) means any mechanism or provision under section 301 or 316 of CWA or under 40 CFR Part 125, or in the applicable "effluent limitations guidelines" which allows modification to or waiver of the generally applicable effluent limitation requirements or time deadlines of CWA. This includes provisions which allow the establishment of alternative limitations based on fundamentally different factors or on sections 301(c), 301(g), 301(h), 301(i), or 316(a) of CWA.

(b) For the purposes of Part 124, the term "Director" means the State Director or Regional Administrator and is used when the accompanying provision is required of EPA-administered programs and of State programs under §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA). The term "Regional Administrator" is used when the accompanying provision applies exclusively to EPA-issued permits and is not applicable to State programs under these sections. While States are not required to implement these latter provisions, they are not precluded from doing so, notwithstanding use of the term "Regional Administrator."

(c) The term "formal hearing" means any evidentiary hearing under Subpart E or any panel hearing under Subpart F but does not mean a public hearing conducted under § 124.12.

§ 124.3 Application for a permit.

(a) *Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).* (1) Any person who requires a permit under the RCRA, UIC, NPDES, or PSD programs shall complete, sign, and submit to the

Director an application for each permit required under §§ 270.1 (RCRA), 144.1 (UIC), 40 CFR 52.21 (PSD), and 122.1 (NPDES). Applications are not required for RCRA permits by rule (§ 270.60), underground injections authorized by rule (§ 144.21–28), NPDES general permits (§ 122.28) and 404 general permits (§ 233.37).

(2) The Director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See §§ 270.10, 270.13 (RCRA), 144.31 (UIC), 40 CFR 52.21 (PSD), and 122.21 (NPDES).

(3) Permit applications (except for PSD permits) must comply with the signature and certification requirements of §§ 122.22 (NPDES), 144.32 (UIC), 233.6 (404), and 270.11 (RCRA).

(b) [Reserved.]

(c) The Regional Administrator shall review for completeness every application for an EPA-issued permit. Each application for an EPA-issued permit submitted by a new HWM facility, a new UIC injection well, a major PSD stationary source or major PSD modification, or an NPDES new source or NPDES new discharger should be reviewed for completeness by the Regional Administrator within 30 days of its receipt. Each application for an EPA-issued permit submitted by an existing HWM facility (both Parts A and B of the application), existing injection well or existing NPDES source should be reviewed for completeness within 60 days of receipt. Upon completing the review, the Regional Administrator shall notify the applicant in writing whether the application is complete. If the application is incomplete, the Regional Administrator shall list the information necessary to make the application complete. When the application is for an existing HWM facility, an existing UIC injection well or an existing NPDES source, the Regional Administrator shall specify in the notice of deficiency a date for submitting the necessary information. The Regional Administrator shall notify the applicant that the application is complete upon receiving this information. After the application is completed, the Regional Administrator may request additional information from an applicant but only when necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete.

(d) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken under the applicable statutory provision including RCRA section 3008, SDWA sections 1423 and 1424, CAA section 167, and CWA sections 308, 309, 402(h), and 402(k).

(e) If the Regional Administrator decides that a site visit is necessary for any reason in conjunction with the processing of an application, he or she shall notify the applicant and a date shall be scheduled.

(f) The effective date of an application is the date on which the Regional Administrator notifies the applicant that the application is complete as provided in paragraph (c) of this section.

(g) For each application from a major new HWM facility, major new UIC injection well, major NPDES new source, or major NPDES new discharger the Regional Administrator shall, no later than the effective date of the application, prepare and mail to the applicant a project decision schedule. (This paragraph does not apply to PSD permits.) The schedule shall specify target dates by which the Regional Administrator intends to:

(1) Prepare a draft permit;

(2) Give public notice;

(3) Complete the public comment period, including any public hearing;

(4) Issue a final permit; and

(5) In the case of an NPDES permit, complete any formal proceedings under Subparts E or F.

§ 124.4 Consolidation of permit processing.

(a)(1) Whenever a facility or activity requires a permit under more than one statute covered by these regulations, processing of two or more applications for those permits may be consolidated. The first step in consolidation is to prepare each draft permit at the same time.

(2) Whenever draft permits are prepared at the same time, the statements of basis (required under § 124.7 for EPA-issued permits only) or fact sheets (§ 124.8), administrative records (required under § 124.9 for EPA-issued permits only), public comment periods (§ 124.10), and any public hearings (§ 124.12) on those permits should also be consolidated. The final permits may be issued together. They need not be issued together if in the judgment of the Regional Administrator or State Director(s), joint processing would result in unreasonable delay in the issuance of one or more permits.

(b) Whenever an existing facility or activity requires additional permits under one or more of the statutes covered by these regulations, the permitting authority may coordinate the expiration date(s) of the new permit(s) with the expiration date(s) of the existing permit(s) so that all permits expire simultaneously. Processing of the subsequent applications for renewal permits may then be consolidated.

(c) Processing of permit applications under paragraph (a) or (b) of this section may be consolidated as follows:

(1) The Director may consolidate permit processing at his or her discretion whenever a facility or activity requires all permits either from EPA or from an approved State.

(2) The Regional Administrator and the State Director(s) may agree to consolidate draft permits whenever a facility or activity requires permits from both EPA and an approved State.

(3) Permit applicants may recommend whether or not the processing of their applications should be consolidated.

(d) Whenever permit processing is consolidated and the Regional Administrator invokes the "initial licensing" provisions of Subpart F for an NPDES, RCRA, or UIC permit, any permit(s) with which that NPDES, RCRA or UIC permit was consolidated shall likewise be processed under Subpart F.

(e) Except with the written consent of the permit applicant, the Regional Administrator shall not consolidate processing a PSD permit with any other permit under paragraphs (a) or (b) of this section or process a PSD permit under Subpart F as provided in paragraph (d) of this section when to do so would delay issuance of the PSD permit more than one year from the effective date of the application under § 124.3(f).

§ 124.5 Modification, revocation and reissuance, or termination of permits.

(a) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA)).* Permits (other than PSD permits) may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Director's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in §§ 122.62 or 122.64 (NPDES), 144.39 or 144.40 (UIC), 233.14 or 233.15 (404), and 270.41 or 270.43 (RCRA). All requests shall be in writing and shall contain facts or reasons supporting the request.

(b) If the Director decides the request is not justified, he or she shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings. Denials by the Regional Administrator may be informally appealed to the Administrator by a letter briefly setting forth the relevant facts. The Administrator may direct the Regional Administrator to begin modification, revocation and reissuance, or termination proceedings under paragraph (c) of this section. The appeal shall be considered denied if the Administrator takes no action on the letter within 60 days after receiving it. This informal appeal is, under 5 U.S.C. § 704, a prerequisite to seeking judicial review of EPA action in denying a request for modification, revocation and reissuance, or termination.

(c) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA)).* (1) If the Director tentatively decides to modify or revoke and reissue a permit under §§ 122.62 (NPDES), 144.39 (UIC), 233.14 (404), or 270.41 (RCRA), he or she shall prepare a draft permit under § 124.6 incorporating the proposed changes. The Director may request additional information and, in the case of a modified permit, may require the submission of an updated application. In the case of revoked and reissued permits, the Director shall require the submission of a new application.

(2) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(3) "Minor modifications" as defined in Sections 122.63 (NPDES), 144.41 (UIC), 233.16 (404), and 270.42 (RCRA) are not subject to the requirements of this section.

(d) *(Applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.28 (404), and 271.14 (RCRA)).* If the Director tentatively decides to terminate a permit under Sections 122.64 (NPDES), 144.40 (UIC), 233.15 (404), or 270.43 (RCRA), he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under Section 124.6. In the case of EPA-issued permits, a notice of intent to terminate shall not be issued if the Regional Administrator and the permittee agree to termination in the course of transferring permit responsibility to an approved State under Sections 123.24(b)(1) (NPDES), 145.24(b)(1) (UIC), or 271.8(b)(6) (RCRA).

(e) When EPA is the permitting authority, all draft permits (including notices of intent to terminate) prepared under this section shall be based on the administrative record as defined in Section 124.9.

(f) *(Applicable to State programs, see Section 233.26 (404)).* Any request by the permittee for modification to an existing 404 permit (other than a request for a minor modification as defined in Section 233.16 (404)) shall be treated as a permit application and shall be processed in accordance with all requirements of Section 124.3.

(g)(1) (Reserved for PSD Modification Provisions)

(2) PSD permits may be terminated only by rescission under § 52.21(w) or by aufomatic expiration under § 52.21(r). Applications for rescission shall be precessed under § 52.21(w) and are not subject to this Part.

§ 124.6 Draft permits.

(a) *(Applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* Once an application is complete, the Director shall tentatively decide whether to prepare a draft permit (except in the case of State section 404 permits for which no draft permit is required under Section 233.39) or to deny the application.

(b) If the Director tentatively decides to deny the permit application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this section. See Section 124.6(e). If the Director's final decision (Section 124.15) is that the tentative decision to deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny and proceed to prepare a draft permit under paragraph (d) of this section.

(c) *(Applicable to State programs, see Sections 123.25 (NPDES) and 233.26 (404).)* If the Director tentatively decides to issue an NPDES or 404 general permit, he or she shall prepare a draft general permit under paragraph (d) of this section.

(d) *(Applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* If the Director decides to prepare a draft permit, he or she shall prepare a draft permit that contains the following information:

(1) All conditions under Sections 122.41 and 122.43 (NPDES), 144.51 and 144.42 (UIC, 233.7 and 233.8 (404, or 270.30 and 270.32 (RCRA) (except for PSD permits)));

(2) All compliance schedules under Section 122.47 (NPDES), 144.53 (UIC), 233.10 (404), or 270.33 (RCRA) (except for PSD permits);

(3) All monitoring requirements under Section 122.48 (NPDES), 144.54 (UIC), 233.11 (404), or 270.31 (RCRA) (except for PSD permits); and

(4) For:

(i) RCRA permits, standards for treatment, storage, and/or disposal and other permit conditions under Section 270.30;

(ii) UIC permits, permit conditions under Section 144.52;

(iii) PSD permits, permit conditions under 40 CFR Section 52.21;

(iv) 404 permits, permit conditions under Sections 233.7 and 233.8;

(v) NPDES permits, effluent limitations, standards, prohibitions and conditions under Section 122.41 and 122.42, including when applicable any conditions certified by a State agency under Section 124.55, and all variances that are to be included under Section 124.63.

(e) *(Applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* All draft permits prepared by EPA under this section shall be accompanied by a statement of basis (Section 124.7) or fact sheet (Section 124.8), and shall be based on the administrative record (Section 124.9), publicly noticed (Section 124.10) and made available for public comment (Section 124.11). The Regional Administrator shall give notice of opportunity for a public hearing (Section 124.12), issue a final decision (Section 124.15) and respond to comments (Section 124.17). For RCRA, UIC or PSD permits, an appeal may be taken under Section 124.19 and, for NPDES permits, an appeal may be taken under Section 124.74. Draft permits prepared by a State shall be accompanied by a fact sheet if required under § 124.8.

§ 124.7 Statement of basis.

EPA shall prepare a statement of basis for every draft permit for which a fact sheet under § 124.8 is not prepared. The statement of basis shall briefly describe the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons supporting the tentative decision. The statement of basis shall be sent to the applicant and, on request, to any other person.

§ 124.8 Fact sheet.

(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)

(a) A fact sheet shall be prepared for every draft permit for a major HWM, UIC, 404, or NPDES facility or activity, for every 404 and NPDES general permit (§§ 233.37 and 122.28), for every NPDES draft permit that incorporates a variance or requires an explanation under § 124.56(b), and for every draft permit which the Director finds is the subject of widespread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Director shall send this fact sheet to the applicant and, on request, to any other person.

(b) The fact sheet shall include, when applicable:

(1) A brief description of the type of facility or activity which is the subject of the draft permit;

(2) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged.

(3) For a PSD permit, the degree of increment consumption expected to result from operation of the facility or activity.

(4) A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record required by § 124.9 (for EPA-issued permits);

(5) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(6) A description of the procedures for reaching a final decision on the draft permit including:

(i) The beginning and ending dates of the comment period under § 124.10 and the address where comments will be received;

(ii) Procedures for requesting a hearing and the nature of that hearing; and

(iii) Any other procedures by which the public may participate in the final decision.

(7) Name and telephone number of a person to contact for additional information.

(8) For NPDES permits, provisions satisfying the requirements of § 124.56.

§ 124.9 Administrative record for draft permits when EPA is the permitting authority.

(a) The provisions of a draft permit prepared by EPA under § 124.6 shall be based on the administrative record defined in this section.

(b) For preparing a draft permit under § 124.6, the record shall consist of:

(1) The application, if required, and any supporting data furnished by the applicant;

(2) The draft permit or notice of intent to deny the application or to terminate the permit;

(3) The statement of basis (§ 124.7) or fact sheet (§ 124.8);

(4) All documents cited in the statement of basis or fact sheet; and

(5) Other documents contained in the supporting file for the draft permit.

(6) For NPDES new source draft permits only, any environmental assessment, environmental impact statement (EIS), finding of no significant impact, or environmental information document and any supplement to an EIS that may have been prepared. NPDES permits other than permits to new sources as well as all RCRA, UIC and PSD permits are not subject to the environmental impact statement provisions of section 102(2)(C) of the National Environmental Policy Act, 42 U.S.C. 4321.

(c) Material readily available at the issuing Regional Office or published material that is generally available, and that is included in the administrative record under paragraphs (b) and (c) of this section, need not be physically included with the rest of the record as long as it is specifically referred to in the statement of basis or the fact sheet.

(d) This section applies to all draft permits when public notice was given after the effective date of these regulations.

§ 124.10 Public notice of permit actions and public comment period.

(a) *Scope.* (1) The Director shall given public notice that the following sections have occurred:

(i) A permit application has been tentatively denied under Section 124.6(b);

(ii) *(Applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA)).* A draft permit has been prepared under Section 124.6(d);

(iii) *(Applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.26 (404) and 271.14 (RCRA)).* A hearing has been scheduled under Section 124.12, Subpart E, or Subpart F;

(iv) An appeal has been granted under Section 124.19(c);

(v) *(Applicable to State programs, see Section 233.26 (404)).* A State section 404 application has been received in cases when no draft permit will be prepared (see Section 233.39); or

(vi) An NPDES new source determination has been made under Section 122.29.

(2) No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under Section 124.5(b). Written notice of that denial shall be given to the requester and to the permittee.

(3) Public notices may describe more than one permit or permit actions.

(b) *Timing (applicable to State programs, see Sections 123.25 (NPDES), 145.11 (UIC), 233.28 (404, and 271.14 (RCRA)).* (1) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under paragraph (a) of this section shall allow at least 30 days for public comment. For RCRA permits only, public notice shall allow at least 45 days for public comment. For EPA-issued permits, if the Regional Administrator determines under 40 CFR Part 6, Subpart F that an Environmental Impact Statement (EIS) shall be prepared for an NPDES new source, public notice of the draft permit shall not be given until after a draft EIS is issued.

(2) Public notice of a public hearing shall be given at least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.)

(c) *Methods (applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA))* Public notice of activities described in paragraph (a)(1) of this section shall be given by the following methods:

(1) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits);

(i) The applicant (except for NPDES and 404 general permits when there is no applicant);

(ii) Any other agency which the Director knows has issued or is required to issue a RCRA, UIC, PSD, NPDES or 404 permit for the same facility or activity (including EPA when the draft permit is prepared by the State);

(iii) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and other appropriate government authorities, including any affected States;

(iv) For NPDES and 404 permits only, any State agency responsible for plan development under CWA section 208(b)(2), 208(b)(4) or 303(e) and the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service;

(v) For NPDES permits only, any user identified in the permit application of a privately owned treatment works;

(vi) For 404 permits only, any reasonably ascertainable owner of property adjacent to the regulated facility or activity and the Regional Director of the Federal Aviation Administration if the discharge involves the construction of structures which may affect aircraft operations or for purposes associated with seaplane operations;

(vii) For PSD permits only, affected State and local air pollution control agencies, the chief executives of the city and county where the major stationary source or major modification would be located, any comprehensive regional land use planning agency and any State, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the regulated activity;

(viii) Persons on a mailing list developed by:

(A) Including those who request in writing to be on the list;

(B) Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(C) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals. (The Director may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Director may delete from the list the name of any person who fails to respond to such a request.)

(2) For major permits and NPDES and 404 general permits, publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity; and for EPA-issued NPDES general permits, in the **Federal Register**;

[Note.—The Director is encouraged to provide as much notice as possible of the NPDES or 404 draft general permit to the facilities or activities to be covered by the general permit.]

(3) When the program is being administered by an approved State, in a manner constituting legal notice to the public under State law; *and*

(4) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(d) *Contents (applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA)).* (1) *All public notices.* All public notices issued under this Part shall contain the following minimum information:

(i) Name and address of the office processing the permit action for which notice is being given;

(ii) Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit, except in the case of NPDES and 404 draft general permits under §§ 122.28 and 233.37;

(iii) a brief description of the business conducted at the facility or activity described in the permit application or the draft permit, for NPDES or 404 general permits when there is no application.

(iv) Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit or draft general permit, as the case may be, statement of basis or fact sheet, and the application; and

(v) A brief description of the comment procedures required by §§ 124.11 and 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision.

(vi) For EPA-issued permits, the location of the administrative record required by § 124.9, the times at which the record will be open for public inspection, and a statement that all data submitted by the applicant is available as part of the administrative record.

(vii) For NPDES permits only, a general description of the location of each existing or proposed discharge point and the name of the receiving water. For draft general permits, this requirement will be satisfied by a map or description of the permit area. For EPA-issued NPDES permits only, if the discharge is from a new source, a statement as to whether an environmental impact statement will be or has been prepared.

(viii) For 404 permits only,

(A) The purpose of the proposed activity (including, in the case of fill material, activities intended to be conducted on the fill), a description of the type, composition, and quantity of materials to be discharged and means of conveyance; and any proposed conditions and limitations on the discharge;

(B) The name and water quality standards classification, if applicable, of the receiving waters into which the discharge is proposed, and a general discription of the site of each proposed discharge and the portions of the site and the discharges which are within State regulated waters;

(C) A description of the anticipated environmental effects of activities conducted under the permit;

(D) References to applicable statutory or regulatory authority; and

(E) Any other available information which may assist the public in evaluating the likely impact of the proposed activity upon the integrity of the receiving water.

(ix) Any additional information considered necessary or proper.

(2) *Public notices for hearings.* In addition to the general public notice described in paragraph (d)(1) of this section, the public notice of a hearing under § 124.12, Subpart E, or Subpart F shall contain the following information:

(i) Reference to the date of previous public notices relating to the permit;

(ii) Date, time, and place of the hearing;

(iii) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures; and

(iv) For 404 permits only, a summary of major issues raised to date during the public comment period.

(e) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA)).* In addition to the general public notice described in paragraph (d)(1) of this section, all persons identified in paragraphs (c)(1) (i), (ii), (iii), and (iv) of this section shall be mailed a copy of the fact sheet or statement of basis (for EPA-issued permits), the permit application (if any) and the draft permit (if any).

§ 124.11 Public comments and requests for public hearings.

(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)

During the public comment period provided under § 124.10, any interested person may submit written comments on the draft permit or the permit application for 404 permits when no draft permit is required (see § 233.39) and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in § 124.17.

§ 124.12 Public hearings.

(a) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* (1) The Director shall hold a public hearing whenever he or she finds, on the basis of requests, a significant degree of public interest in a draft permit(s);

(2) The Director may also hold a public hearing at his or her discretion, whenever for instance, such a hearing might clarify one or more issues involved in the permit decision;

(3) For RCRA permits only, (i) the Director shall hold a public hearing whenever he or she receives written notice of opposition to a draft permit and a request for a hearing within 45 days of public notice under § 124.10(b)(1); (ii) whenever possible the Director shall schedule a hearing under this section at a location convenient to the nearest population center to the proposed facility;

(4) Public notice of the hearing shall be given as specified in § 124.10.

(b) Whenever a public hearing will be held and EPA is the permitting authority, the Regional Administrator shall designate a Presiding Officer for the hearing who shall be responsible for its scheduling and orderly conduct.

(c) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under § 124.10 shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.

(d) A tape recording or written transcript of the hearing shall be made available to the public.

(e) At his or her discretion, the Regional Administrator may specify that RCRA and UIC permits be processed under the procedures in Subpart F.

§ 124.13 Obligation to raise issues and provide information during the public comment period.

All persons, including applicants, who believe any condition of a draft permit is inappropriate or that the Director's tentative decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period (including any public hearing) under § 124.10. All supporting materials shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of State or Federal statutes and regulations, EPA documents of general applicability, or other generally available reference materials. Commenters shall make supporting material not already included in the administrative record available to EPA as directed by the Regional Administrator. (A comment period longer than 30 days will often be necessary in complicated proceedings to give commenters a reasonable opportunity to comply with the requirements of this section. Commenters may request longer comment periods and they should be freely established under § 124.10 to the extent they appear necessary.)

§ 124.14 Reopening of the public comment period.

(a) If any data information or arguments submitted during the public comment period, including information or arguments required under § 124.13, appear to raise substantial new questions concerning a permit, the Regional Administrator may take one or more of the following actions:

(1) Prepare a new draft permit, appropriately modified, under § 124.6;

(2) Prepare a revised statement of basis under § 124.7, a fact sheet or revised fact sheet under § 124.8 and reopen the comment period under § 124.14; or

(3) Reopen or extend the comment period under § 124.10 to give interested persons an opportunity to comment on the information or arguments submitted.

(b) Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice under § 124.10 shall define the scope of the reopening.

(c) For RCRA, UIC, or NPDES permits, the Regional Administrator may also, in the circumstances described above, elect to hold further proceedings under Subpart F. This decision may be combined with any of the actions enumerated in paragraph (a) of this section.

(d) Public notice of any of the above actions shall be issued under § 124.10.

§ 124.15 Issuance and effective date of permit.

(a) After the close of the public comment period under § 124.10 on a draft permit, the Regional Administrator shall issue a final permit decision. The Regional Administrator shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedures for appealing a decision on a RCRA, UIC, or PSD permit or for contesting a decision on an NPDES permit or a decision to terminate a RCRA permit. For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

(b) A final permit decision shall become effective 30 days after the service of notice of the decision under paragraph (a) of this section, unless:

(1) A later effective date is specified in the decision; or

(2) Review is requested under § 124.19 (RCRA, UIC, and PSD permits) or an evidentiary hearing is requested under § 124.74 (NPDES permit and RCRA permit terminations); or

(3) No comments requested a change in the draft permit, in which case the permit shall become effective immediately upon issuance.

§ 124.16 Stays of contested permits conditions.

(a) *Stays.* (1) If a request for review of a RCRA or UIC permit under § 124.19 or an NPDES permit under § 124.74 or § 124.114 is granted or if conditions of a RCRA or UIC permit are consolidated for reconsideration in an evidentiary hearing on an NPDES permit under §§ 124.74, 124.82 or 124.114, the effect of the contested permit conditions shall be stayed and shall not be subject to judicial review pending final agency action. (No stay of a PSD permit is available under this section.) If the permit involves a new facility or new injection well, new source, new discharger or a recommencing discharger, the applicant shall be without a permit for the proposed new facility, injection well, source or discharger pending final agency action. See also § 124.60.

(2) Uncontested conditions which are not serverable from those contested shall be stayed together with the contested conditions. Stayed provisions of permits for existing facilities, injection wells, and sources shall be identified by the Regional Administrator. All other provisions of the permit for the existing facility, injection well, or source shall remain fully effective and enforceable.

(b) *Stays based on cross effects.* (1) A stay may be granted based on the grounds that an appeal to the Administrator under § 124.19 of one permit may result in changes to another EPA-issued permit only when each of the permits involved has been appealed to the Administrator and he or she has accepted each appeal.

(2) No stay of an EPA-issued RCRA, UIC, or NPDES permit shall be granted based on the staying of any State-issued permit except at the discretion of the Regional Administrator and only upon written request from the State Director.

(c) Any facility or activity holding an existing permit must:

(1) Comply with the conditions of that permit during any modification or revocation and reissuance proceeding under § 124.5; and

(2) To the extent conditions of any new permit are stayed under this section, comply with the conditions of the existing permit which correspond to the stayed conditions, unless compliance with the existing conditions would be technologically incompatible with compliance with other conditions of the new permit which have not been stayed.

§ 124.17 Response to comments.

(a) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* At the time that any final permit decision is issued under § 124.15, the Director shall issue a response to comments. States are only required to issue a response to comments when a final permit is issued. This response shall:

(1) Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(2) Briefly describe and respond to all significant comments on the draft permit or the permit application (for section 404 permits only) raised during the public comment period, or during any hearing.

(b) For EPA-issued permits, any documents cited in the response to comments shall be included in the administrative record for the final permit decision as defined in § 124.18. If new points are raised or new material supplied during the public comment period, EPA may document its response to those matters by adding new materials to the administrative record.

(c) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* The response to comments shall be available to the public.

§ 124.18 Administrative record for final permit when EPA is the permitting authority.

(a) The Regional Administrator shall base final permit decisions under § 124.15 on the administrative record defined in this section.

(b) The administrative record for any final permit shall consist of the administrative record for the draft permit and:

(1) All comments received during the public comment period provided under § 124.10 (including any extension or reopening under § 124.14);

(2) The tape or transcript of any hearing(s) held under § 124.12;

(3) Any written materials submitted at such a hearing;

(4) The response to comments required by § 124.17 and any new material placed in the record under that section;

(5) For NPDES new source permits only, final environmental impact statement and any supplement to the final EIS;

(6) Other documents contained in the supporting file for the permit; and

(7) The final permit.

(c) The additional documents required under paragraph (b) of this section should be added to the record as soon as possible after their receipt or publication by the Agency. The record shall be complete on the date the final permit is issued.

(d) This section applies to all final RCRA, UIC, PSD, and NPDES permits when the draft permit was subject to the administrative record requirements of § 124.9 and to all NPDES permits when the draft permit was included in a public notice after October 12, 1979.

(e) Material readily available at the issuing Regional Office, or published materials which are generally available and which are included in the administrative record under the standards of this section or of § 124.17 ("Response to comments"), need not be physically included in the same file as the rest of the record as long as it is specifically referred to in the statement of basis or fact sheet or in the response to comments.

§ 124.19 Appeal of RCRA, UIC, and PSD permits.

(a) Within 30 days after a RCRA, UIC, or PSD final permit decision has been issued under § 124.15, any person who filed comments on that draft permit or participated in the public hearing may petition the Administrator to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition for administrative review only to the extent of the changes from the draft to the final permit decision. The 30-day period within which a person may request review under this section begins with the service of notice of the Regional Administrator's action unless a later date is specified in that notice. The petition shall include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and when appropriate, a showing that the condition in question is based on:

(1) A finding of fact or conclusion of law which is clearly erroneous, or

(2) An exercise of discretion or an important policy consideration which the Administrator should, in his or her discretion, review.

(b) The Administrator may also decide on his or her initiative to review any condition of any RCRA, UIC, or PSD permit issued under this Part. The Administrator must act under this paragraph within 30 days of the service date of notice of the Regional Administrator's action.

(c) Within a reasonable time following the filing of the petition for review, the Administrator shall issue an order either granting or denying the petition for review. To the extent review is denied, the conditions of the final permit decision become final agency action. Public notice of any grant of review by the Administrator under paragraph (a) or (b) of this section shall be given as provided in § 124.10. Public notice shall set forth a briefing schedule for the appeal and shall note that any interested person may file an amicus brief. Notice of denial of review shall be sent only to the person(s) requesting review.

(d) The Administrator may defer consideration of an appeal of a RCRA or UIC permit under this section until the completion of formal proceedings under Subpart E or F relating to an NPDES permit issued to the same facility or activity upon concluding that:

(1) The NPDES permit is likely to raise issues relevant to a decision of the RCRA or UIC appeals;

(2) The NPDES permit is likely to be appealed; and

(3) Either: (i) The interests of both the facility or activity and the public are not likely to be materially adversely affected by the deferral; or

(ii) Any adverse effect is outweighed by the benefits likely to result from a consolidated decision on appeal.

(e) A petition to the Administrator under paragraph (a) of this section is, under 5 U.S.C. § 704, a prerequisite to the seeking of judicial review of the final agency action.

(f)(1) For purposes of judicial review under the appropriate Act, final agency action occurs when a final RCRA, UIC, or PSD permit is issued or denied by EPA and agency review procedures are exhausted. A final permit decision shall be issued by the Regional Administrator: (i) When the Administrator issues notice to the parties that review has been denied; (ii) when the Administrator issues a decision on the merits of the appeal and the decision does not include a remand of the proceedings; or (iii) upon the completion of remand proceedings if the proceedings are remanded, unless the Administrator's remand order specifically provides that appeal of the remand decision will be required to exhaust administrative remedies.

(2) Notice of any final agency action regarding a PSD permit shall promptly be published in the Federal Register.

§ 124.20 Computation of time.

(a) Any time period scheduled to begin on the occurrence of an act or event shall begin on the day after the act or event.

(b) Any time period scheduled to begin before the occurrence of an act or event shall be computed so that the period ends on the day before the act or event.

(c) If the final day of any time period falls on a weekend or legal holiday, the time period shall be extended to the next working day.

(d) Whenever a party or interested person has the right or is required to act within a prescribed period after the service of notice or other paper upon him or her by mail, 3 days shall be added to the prescribed time.

§ 124.21 Effective date of Part 124.

(a) Except for paragraph (b) and (c) of this section, Part 124 will become effective July 18, 1980. Because this effective date will precede the processing of any RCRA or UIC permits, Part 124 will apply in its entirety to all RCRA and UIC permits.

(b) All provisions of Part 124 pertaining to the RCRA program will become effective on November 19, 1980.

(c) All provisions of Part 124 pertaining to the UIC program will become effective July 18, 1980, but shall not be implemented until the effective date of 40 CFR Part 146.

(d) This Part does not significantly change the way in which NPDES permits are processed. Since October 12, 1979, NPDES permits have been the subject to almost identical requirements in the revised NPDES regulations which were promulgated on June 7, 1979. See *44 FR 32948.* To the extent this Part changes the revised NPDES permit regulations, those changes will take effect as to all permit proceedings in progress on July 3, 1980.

(e) This part also does not significantly change the way in which PSD permits are processed. For the most part, these regulations will also apply to PSD proceedings in progress on July 18, 1980. However, because it would be disruptive to require retroactively a formal administrative record for PSD permits issued without one, §§ 124.9 and 124.18 will apply to PSD permits for which draft permits were prepared after the effective date of these regulations.

Subpart B—Specific Procedures Applicable to RCRA Permits—[Reserved]

Subpart C—Specific Procedures Applicable to PSD Permits

§ 124.41 Definitions applicable to PSD permits.

Whenever PSD permits are processed under this Part, the following terms shall have the following meanings:

"Administrator," "EPA," and "Regional Administrator" shall have the meanings set forth in § 124.2, except when EPA has delegated authority to administer those regulations to another agency under the applicable subsection of 40 CFR § 52.21, the term "EPA" shall mean the delegate agency and the term "Regional Administrator" shall mean the chief administrative officer of the delegate agency.

"Application" means an application for a PSD permit.

"Appropriate Act and Regulations" means the Clean Air Act and applicable regulations promulgated under it.

"Approved program" means a State implementation plan providing for issuance of PSD permits which has been approved by EPA under the Clean Air Act and 40 CFR Part 51. An "approved State" is one administering an "approved program." "State Director" as used in § 124.4 means the person(s) responsible for issuing PSD permits under an approved program, or that person's delegated representative.

"Construction" has the meaning given in 40 CFR 52.21.

"Director" means the Regional Administrator.

"Draft permit" shall have the meaning set forth in § 124.2.

"Facility or activity" means a "major PSD stationary source" or "major PSD modification."

"Federal Land Manager" has the meaning given in 40 CFR 52.21.

"Indian Governing Body" has the meaning given in 40 CFR 52.21.

"Major PSD modification" means a "major modification" as defined in 40 CFR 52.21.

"Major PSD stationary source" means a "major stationary source" as defined in 40 CFR 52.21(b)(1).

"Owner or operator" means the owner or operator of any facility or activity subject to regulation under 40 CFR 52.21 or by an approved State.

"Permit" or "PSD permit" means a permit issued under 40 CFR 52.21 or by an approved State.

"Person" includes an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent or employee thereof.

"Regulated activity" or "activity subject to regulation" means a "major PSD stationary source" or "major PSD modification."

"Site" means the land or water area upon which a "major PSD stationary source" or "major PSD modification" is physically located or conducted, including but not limited to adjacent land used for utility systems; as repair, storage, shipping or processing areas; or otherwise in connection with the "major PSD stationary source" or "major PSD modification."

"State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa and includes the Commonwealth of the Northern Mariana Islands.

§ 124.42 Additional procedures for PSD permits affecting Class I areas.

(a) The Regional Administrator shall provide notice of any permit application for a proposed major PSD stationary source or major PSD modification the emissions from which would affect a Class I area to the Federal Land Manager, and the Federal official charged with direct responsibility for management of any lands within such area. The Regional Administrator shall provide such notice promptly after receiving the application.

(b) Any demonstration which the Federal Land Manager wishes to present under 40 CFR § 52.21(q)(3), and any variances sought by an owner or operator under § 52.21(q)(4) shall be submitted in writing, together with any necessary supporting analysis, by the end of the public comment period under §§ 124.10 or 124.118. (40 CFR 52.21(q)(3) provides for denial of a PSD permit to a facility or activity when the Federal Land Manager demonstrates that its emissions would adversely affect a Class I area even though the applicable increments would not be exceeded. 40 CFR 52.21(q)(4) conversely authorizes

EPA, with the concurrence of the Federal Land Manager and State responsible, to grant certain variances from the otherwise applicable emission limitations to a facility or activity whose emissions would affect a Class I area.)

(c) Variances authorized by 40 CFR 52.21 (q)(5) through (q)(7) shall be handled as specified in those subparagraphs and shall not be subject to this Part. Upon receiving appropriate documentation of a variance properly granted under any of these provisions, the Regional Administrator shall enter the variance in the administrative record. Any decisions later made in proceedings under this Part concerning that permit shall be consistent with the conditions of that variance.

Subpart D—Specific Procedures Applicable to NPDES Permits

§ 124.51 Purpose and scope.

(a) This Subpart sets forth additional requirements and procedures for decisionmaking for the NPDES program.

(b) Decisions on NPDES variance requests ordinarily will be made during the permit issuance process. Variances and other changes in permit conditions ordinarily will be decided through the same notice-and-comment and hearing procedures as the basic permit.

§ 124.52 Permits required on a case-by-case basis.

(a) Various sections of Part 122, Subpart B allow the Director to determine, on a case-by-case basis, that certain concentrated animal feeding operations (§ 122.23), concentrated aquatic animal production facilities (§ 122.24), separate storm sewers (§ 122.26), and certain other facilities covered by general permits (§ 122.28) that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

(b) Whenever the Regional Administrator decides that an individual permit is required under this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under § 122.21 within 60 days of notice. The question whether the initial designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

§ 124.53 State certification.

(a) Under CWA section 401(a)(1), EPA may not issue a permit until a certification is granted or waived in accordance with that section by the State in which the discharge originates or will originate.

(b) Applications received without a State certification shall be forwarded by the Regional Administrator to the certifying State agency with a request that certification be granted or denied.

(c) If State certification has not been received by the time the draft permit is prepared, the Regional Administrator shall send the certifying State agency:

(1) A copy of a draft permit;

(2) A statement that EPA cannot issue or deny the permit until the certifying State agency has granted or denied certification under § 124.55, or waived its right to certify; and

(3) A statement that the State will be deemed to have waived its right to certify unless that right is exercised within a specified reasonable time not to exceed 60 days from the date the draft permit is mailed to the certifying State agency unless the Regional Administrator finds that unusual circumstances require a longer time.

(d) State certification shall be granted or denied within the reasonable time specified under paragraph (c)(3) of this section. The State shall send a notice of its action, including a copy of any certification, to the applicant and the Regional Administrator.

(e) State certification shall be in writing and shall include:

(1) Conditions which are necessary to assure compliance with the applicable provisions of CWA sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law;

(2) When the State certifies a draft permit instead of a permit application, any conditions more stringent than those in the draft permit which the State finds necessary to meet the requirements listed in paragraph (e)(1) of this section. For each more stringent condition, the certifying State agency shall cite the CWA or State law references upon which that condition is based. Failure to provide such a citation waives the right to certify with respect to that condition; and

(3) A statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of State law, including water quality standards. Failure to provide this statement for any condition waives the right to certify or object to any less stringent condition which may be established during the EPA permit issuance process.

§ 124.54 Special provisions for State certification and concurrence on applications for section 301(h) variances.

(a) When an application for a permit incorporating a variance request under CWA section 301(h) is submitted to a State, the appropriate State official shall either:

(1) Deny the request for the CWA section 301(h) variance (and so notify the applicant and EPA) and, if the State is an approved NPDES State and the permit is due for reissuance, process the permit application under normal procedures; or

(2) Forward a certification meeting the requirements of § 124.53 to the Regional Administrator.

(b) When EPA issues a tentative decision on the request for a variance under CWA section 301(h), and no certification has been received under paragraph (a) of this section, the Regional Administrator shall forward the tentative decision to the State in accordance with § 124.53(b) specifying a reasonable time for State certification and concurrence. If the State fails to deny or grant certification and concurrence under paragraph (a) of this section within such reasonable time, certification shall be waived and the State shall be deemed to have concurred in the issuance of a CWA section 301(h) variance.

(c) Any certification provided by a State under paragraph (a)(2) of this section shall constitute the State's concurrence (as required by section 301(h)) in the issuance of the permit incorporating a section 301(h) variance subject to any conditions specified therein by the State. CWA section 301(h) certification and concurrence under this section will not be forwarded to the State by EPA for recertification after the permit issuance process; States must specify any conditions required by State law, including water quality standards, in the initial certification.

§ 124.55 Effect of State certification.

(a) When certification is required under CWA section 401(a)(1) no final permit shall be issued:

(1) If certification is denied, or

(2) Unless the final permit incorporates the requirements specified in the certification under § 124.53(d)(1) and (2).

(b) If there is a change in the State law or regulation upon which a certification is based, or if a court of competent jurisdiction or appropriate State board or agency stays, vacates, or remands a certification, a State which has issued a certification under § 124.5 may issue a modified certification or notice of waiver and forward it to EPA. If the modified certification is received before final agency action on the permit, the permit shall be consistent with the more stringent conditions which are based upon State law identified in such certification. If the certification or notice of waiver is received after final agency action on the permit, the Regional Administrator may modify the permit on request of the permittee only to the extent necessary to delete any conditions based on a condition in a certification invalidated by a court of competent jurisdiction or by an appropriate State board or agency.

(c) A State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition. The Regional Administrator shall disregard any such certification conditions, and shall consider those conditions or denials as waivers of certification.

(d) A condition in a draft permit may be changed during agency review in any manner consistent with a certification meeting the requirements of § 124.53(d). No such changes shall require EPA to submit the permit to the State for recertification.

(e) Review and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the procedures in this Part.

(f) Nothing in this section shall affect EPA's obligation to comply with § 122.47. See CWA section 301(b)(1)(C).

§ 124.56 Fact sheets.

(Applicable to State programs, see § 123.25 (NPDES)).

In addition to meeting the requirements of § 124.8, NPDES fact sheets shall contain the following:

(a) Any calculations or other necessary explanation of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under § 122.4 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

(b)(1) When the draft permit contains any of the following conditions, an explanation of the reasons why such conditions are applicable:

(i) Limitations to control toxic pollutants under § 122.44(e);

(ii) Limitations on internal waste streams under § 122.45(i); or

(iii) Limitations on indicator pollutants under § 125.3(g).

(2) For every permit to be issued to a treatment works owned by a person other than a State or municipality, an explanation of the Director's decision on regulation of users under § 122.44(m).

(c) When appropriate, a sketch or detailed description of the location of the discharge described in the application; and

(d) For EPA-issued NPDES permits, the requirements of any State certification under § 124.53.

§ 124.57 Public notice.

(a) *Section 316(a) requests (applicable to State programs, see section 123.25).* In addition to the information required under section 124.10(d)(1), public notice to an NPDES draft permit for a discharge where a CWA section 316(a) request has been filed under section 122.21(1) shall include:

(1) A statement that the thermal component of the discharge is subject to effluent limitations under CWA sections 301 or 306 and a brief description, including a quantitative statement, of the thermal effluent limitations proposed under section 301 or 306; and

(2) A statement that a section 316(a) request has been filed and that alternative less stringent effluent limitations may be imposed on the thermal component of the discharge under section 316(a) and a brief description, including a quantitative statement, of the alternative effluent limitations, if any, included in the request.

(3) If the applicant has filed an early screening request under § 125.72 for a section 316(a) variance, a statement that the applicant has submitted such a plan.

(b) *Evidentiary hearings under Subpart E.* In addition to the information required under § 124.10(d)(2), public notice of a hearing under Subpart E shall include:

(1) Reference to any public hearing under § 124.12 on the disputed permit;

(2) Name and address of the person(s) requesting the evidentiary hearing;

(3) A statement of the following procedures:

(i) Any person seeking to be a party must file a request to be admitted as a party to the hearing within 15 days of the date of publication of the notice;

(ii) Any person seeking to be a party may, subject to the requirements of § 124.76, propose material issues of fact or law not already raised by the original requester or another party;

(iii) The conditions of the permit(s) at issue may be amended after the evidentiary hearing and any person interested in those permit(s) must request to be a party in order to preserve any right to appeal or otherwise contest the final administative decision.

(c) *Non-adversary panel procedures under Subpart F.* (1) In addition to the information required under § 124.10(d)(2), mailed public notice of a draft permit to be processed under Subpart F shall include a statement that any hearing shall be held under Subpart F (panel hearing).

(2) Mailed public notice of a panel hearing under Subpart F shall include:

(i) Name and address of the person requesting the hearing, or a statement that the hearing is being held by order of the Regional Administrator, and the name and address of each known party to the hearing;

(ii) A statement whether the recommended decision will be issued by the Presiding Officer or by the Regional Administrator;

(iii) The due date for filing a written request to participate in the hearing under § 124.117; and

(iv) The due date for filing comments under § 124.118.

§ 124.58 Special procedures for EPA-issued general permits for point sources other than separate storm sewers.

(a) The Regional Administrator shall send a copy of the draft general permit and the administrative record to the Deputy Assistant Administrator for Water Enforcement during the public comment period.

(b) The Deputy Assistant Administrator for Water Enforcement shall have 30 days from receipt of the draft general permit, or shall have until the end of the public comment period, whichever is later, to comment upon, object to, or make recommendations with respect to the draft general permit.

(c) If the Deputy Assistant Administrator for Water Enforcement objects to a draft general permit within the period specified in paragraph (b) of this section, the Regional Administrator shall not issue the final general permit until the Deputy Assistant Administrator for Water Enforcement concurs in writing with the conditions of the general permit.

§ 124.59 Conditions requested by the Corps of Engineers and other government agencies.

(Applicable to State programs, see § 123.25 (NPDES)).

(a) If during the comment period for an NPDES draft permit, the District Engineer advises the Director in writing that anchorage and navigation of any of the waters of the United States would be substantially impaired by the granting of a permit, the permit shall be denied and the applicant so notified. If the District Engineer advised the Director that imposing specified conditions upon the permit is necessary to avoid any substantial impairment of anchorage or navigation, then the Director shall include the specified conditions in the permit. Review or appeal of denial of a permit or of conditions specified by the District Engineer shall be made through the applicable procedures of the Corps of Engineers, and may not be made through the procedures provided in this Part. If the conditions are stayed by a court of competent jurisdiction or by applicable procedures of the Corps of Engineers, those conditions shall be considered stayed in the NPDES permit for the duration of that stay.

(b) If during the comment period the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, or any other State or Federal agency with jurisdiction over fish, wildlife, or public health advises the Director in writing that the imposition of specified conditions upon the permit is necessary to avoid substantial impairment of fish, shellfish, or wildlife resources, the Director may include the specified conditions in the permit to the extent they are determined necessary to carry out the provisions of § 122.47 and of the CWA.

(c) In appropriate cases the Director may consult with one or more of the agencies referred to in this section before issuing a draft permit and may reflect their views in the statement of basis, the fact sheet, or the draft permit.

§ 124.80 Issuance and effective date and stays of NPDES permits.

In addition to the requirements of §124.15, the following provisions apply to NPDES permits and to RCRA or UIC permits to the extent those permits may have been consolidated with an NPDES permit in a formal hearing:

(a)(1) If a request for a formal hearing is granted under § 124.75 or § 124.114 regarding the initial permit issued for a new source, a new discharger, or a recommencing discharger, or if a petition for review of the denial of a request for a formal hearing with respect to such a permit is timely filed with the Administrator under § 124.91, the applicant shall be without a permit pending final Agency action under § 124.91.

(2) Wherever a source subject to this paragraph has received a final permit under § 124.15 which is the subject of a hearing request under § 124.74 or a formal hearing under § 124.75, the Presiding Officer, on motion by the source, may issue an order authorizing it to begin operation before final agency action if it complies with all conditions of that final permit during the period until final agency action. The Presiding Officer may grant such a motion in any case where no party opposes it, or, if a party opposes the motion, where the source demonstrates that (i) it is likely to prevail on the merits; (ii) irreparable harm to the environment will not result pending final agency action if it is allowed to commence operations before final agency action; and (iii) the public interest requires that the source be allowed to commence operations. All the conditions of any permit covered by that order shall be fully effective and enforceable.

(b) The Regional Administrator, at any time prior to the rendering of an initial decision in a formal hearing on a permit, may withdraw the permit and prepare a new draft permit under § 124.6 addressing the portions so withdrawn. The new draft permit shall proceed through the same process of public comment and opportunity for a public hearing as would apply to any other draft permit subject to this Part. Any portions of the permit which are not withdrawn and which are not stayed under this section shall remain in effect.

(c)(1) If a request for a formal hearing is granted in whole or in part under § 124.75 regarding a permit for an existing source, or if a petition for review of the denial of a request for a formal hearing with respect to that permit is timely filed with the Administrator under § 124.91, the force and effect of the contested conditions of the final permit shall be stayed. The Regional Administrator shall notify, in accordance with § 124.75, the discharger and all parties of the uncontested conditions of the final permit that are enforceable obligations of the discharger.

(2) When effluent limitations are contested, but the underlying control technology is not, the notice shall identify the installation of the technology in accordance with the permit compliance schedules (if uncontested) as an uncontested, enforceable obligation of the permit.

(3) When a combination of technologies is contested, but a portion of the combination is not contested, that portion shall be identified as uncontested if compatible with the combination of technologies proposed by the requester.

(4) Uncontested conditions, if inseverable from a contested condition, shall be considered contested.

(5) Uncontested conditions shall become enforceable 30 days after the date of notice under paragraph (c)(1) of this section granting the request. If, however, a request for a formal hearing on a condition was denied and the denial is appealed under § 24.91, then that condition shall become enforceable upon the date of the notice of the Administrator's decision on the appeal if the denial is affirmed, or shall be stayed, in accordance with this section, if the Administrator reverses the denial and grants the evidentiary hearing.

(6) Uncontested conditions shall include:

(i) Preliminary design and engineering studies or other requirements necessary to achieve the final permit conditions which do not entail substantial expenditures;

(ii) Permit conditions which will have to be met regardless of which party prevails at the evidentiary hearing;

(iii) When the discharger proposed a less stringent level of treatment than that contained in the final permit, any permit conditions appropriate to meet the levels proposed by the discharger, if the measures required to attain that less stringent level of treatment are consistent with the measures required to attain the limits proposed by any other party; and

(iv) Construction activities, such as segregation of waste streams or installation of equipment, which would partially meet the final permit conditions and could also be used to achieve the discharger's proposed alternative conditions.

(d) If at any time after a hearing is granted and after the Regional Administrator's notice under paragraph (c)(1) of this section it becomes clear that a permit requirement is no longer contested, any party may request the Presiding Officer to issue an order identifying the requirements as uncontested. The requirement identified in such order shall become enforceable 30 days after the issuance of the order.

(e) When a formal hearing is granted under § 124.75 on an application for a renewal of an existing permit, all provisions of the existing permit as well as uncontested provisions of the new permit, shall continue fully enforceable and effective until final agency action under § 124.91. (See § 122.6) Upon written request from the applicant, the Regional Administrator may delete requirements from the existing permit which unnecessarily duplicate uncontested provisions of the new permit.

(f) When issuing a finally effective NPDES permit the conditions of which were the subject of a formal hearing under Subparts E or F, the Regional Administrator shall extend the permit compliance schedule to the extent required by a stay under this section provided that no such extension shall be granted which would:

(1) Result in the violation of an applicable statutory deadline, or

(2) Cause the permit to expire more than 5 years after issuance under § 124.15(a).

Note.—*Extensions of compliance schedules under § 124.60(f)(2) will not automatically be granted for a period equal to the period the stay is in effect for an effluent limitation. For example, if both the Agency and the discharger agree that a certain treatment technology is required by the CWA where guidelines do not apply, but a hearing is granted to consider the effluent limitations which the technology will achieve, requirements regarding installation of the underlying technology will not be stayed during the hearing. Thus, unless the hearing extends beyond the final compliance date in the permit, it will not ordinarily be necessary to extend the compliance schedule. However, when application of an underlying technology is challenged, the stay for installation requirements relating to that technology would extend for the duration of the hearing.*

(g) For purposes of judicial review under CWA section 509(b), final agency action on a permit does not occur unless and until a party has exhausted its administrative remedies under Subparts E and F and § 124.91. Any party which neglects or fails to seek review under § 124.91 thereby waives its opportunity to exhaust available agency remedies.

§ 124.61 Final environmental impact statement.

No final NPDES permit for a new source shall be issued until at least 30 days after the date of issuance of a final environmental impact statement if one is required under 40 CFR § 6.805.

§ 124.62 Decision on variances.

(*Applicable to State programs, see § 123.25 (NPDES).*)

(a) The Director may grant or deny requests for the following variances (subject to EPA objection under § 123.44 for State permits):

(1) Extensions under CWA section 301(i) based on delay in completion of a publicly owned treatment works.

(2) After consultation with the Regional Administrator, extensions under CWA section 301(k) based on the use of innovative technology; or

(3) Variances under CWA section 316(a) for thermal pollution.

(b) The State Director may deny, or forward to the Regional Administrator with a written concurrence, or submit to EPA without recommendation a completed request for:

(1) A variance based on the presence of "fundamentally different factors" from those on which an effluent limitations guideline was based.

(2) A variance based on the economic capability of the applicant under CWA section 301(c);

(3) A variance based upon certain water quality factors under CWA section 301(g); or

(4) A variance based on water quality related effluent limitations under CWA section 302(b)(2).

(c) The Regional Administrator may deny, forward, or submit to the EPA Deputy Assistant Administrator for Water Enforcement with a recommendation for approval, a request for a variance listed in paragraph (b) of this section that is forwarded by the State Director, or that is submitted to the Regional Administrator by the requester where EPA is the permitting authority.

(d) The EPA Deputy Assistant Administrator for Water Enforcement may approve or deny any variance request submitted under paragraph (c) of this section. If the Deputy Assistant Administrator approves the variance, the Director may prepare a draft permit incorporating the variance. Any public notice of a draft permit for which a variance or modification has been approved or denied shall identify the applicable procedures for appealing that decision under § 124.54.

§ 124.63 Procedures for variances when EPA is the permitting authority.

(a) In States where EPA is the permit issuing authority and a request for a variance is filed as required by § 122.21, the request shall be processed as follows:

(1) If at the time that a request for a variance is submitted the Regional Administrator has received an application under § 124.3 for issuance or renewal of that permit but has not yet prepared a draft permit under § 124.6 covering the discharge in question, the Regional Administrator, after obtaining any necessary concurrence of the EPA Deputy Assistant Administrator for Water Enforcement under § 124.62, shall give notice of a tentative decision on the request at the time the notice of the draft permit is prepared as specified in § 124.10, unless this would significantly delay the processing of the permit. In that case the processing of the variance request may be separated from the permit in accordance with paragraph (a)(3) of this section, and the processing of the permit shall proceed without delay.

(2) If at the time that a request for a variance is filed the Regional Administrator has given notice under § 124.10 of a draft permit covering the discharge in question, but that permit has not yet become final, administrative proceedings concerning that permit may be stayed and the Regional Administrator shall prepare a new draft permit including a tentative decision on the request, and the fact sheet required by § 124.8. However, if this will significantly delay the processing of the existing draft permit or the Regional Administrator, for other reasons, considers combining the variance request and the existing draft permit inadvisable, the request may be separated from the permit in accordance with paragraph (a)(3) of this section, and the administrative disposition of the existing draft permit shall proceed without delay.

(3) If the permit has become final and no application under § 124.3 concerning it is pending or if the variance request has been separated from a draft permit as described in paragraphs (a) (1) and (2) of this section, the Regional Administrator may prepare a new draft permit and give notice of it under § 124.10. This draft permit shall be accompanied by the fact sheet required by § 124.8 except that the only matters considered shall relate to the requested variance.

§ 124.64 Appeals of variances.

(a) When a State issues a permit on which EPA has made a variance decision, separate appeals of the State permit and of the EPA variance decision are possible. If the owner or operator is challenging the same issues in both proceedings, the Regional Administrator will decide, in consultation with State officials, which case will be heard first.

(b) Variance decisions made by EPA may be appealed under either Subparts E or F provided the requirements of the applicable Subpart are met. However, whenever the basic permit decision is eligible only for an evidentiary hearing under Subpart E while the variance decision is eligible only for a panel hearing under Subpart F, the issues relating to both the basic permit decision and the variance decision shall be considered in the Subpart E proceeding. No Subpart F hearing may be held if a Subpart E hearing would be held in addition. See § 124.111(b).

(c) *Stays for section 301(g) variances.* If a request for an evidentiary hearing is granted on a variance requested under CWA section 301(g), or if a petition for review of the denial of a request for the hearing is filed under § 124.91, any otherwise applicable standards and limitations under CWA section 301 shall not be stayed unless:

(1) In the judgment of the Regional Administrator, the stay or the variance sought will not result in the discharge of

pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity, or synergistic propensities; and

(2) In the judgment of the Regional Administrator, there is a substantial likelihood that the discharger will succeed on the merits of its appeal; and

(3) The discharger files a bond or other appropriate security which is required by the Regional Administrator to assure timely compliance with the requirements from which a variance is sought in the event that the appeal is unsuccessful.

(d) Stays for variances other than section 301(g) are governed by § 124.60.

§ 124.65 Special procedures for discharge into marine waters section 301(h).

(a) Where it is clear on the face of a section 301(h) request that the discharger is not entitled to a variance, the request shall be denied.

(b) In the case of all other section 301(h) requests the Administrator, or a person designated by the Administrator, may either:

(1) Give written authorization to a requester to submit information required by part 125, Subpart G or the final request by a date certain, not to exceed 9 months, if:

(i) The requester proposes to submit new or additional information and the request demonstrates that:

(A) The requester made consistent and diligent efforts to obtain such information prior to submitting the final request;

(B) The failure to obtain such information was due to circumstances beyond the control of the requester, and

(C) Such information can be submitted promptly; or

(ii) The requester proposes to submit minor corrective information and such information can be submitted promptly; or

(2) Make a written request of a requester to submit additional information by a certain date, not to exceed 9 months, if such information is necessary to issue a tentative decision under § 124.62(a)(1).

All additional information submitted under this paragraph which is timely received, shall be considered part of the original request.

(c) The otherwise applicable sections of this Part apply to draft permits incorporating section 301(h) variance, except that because 301(h) permits may only be issued by EPA, the terms "Administrator or a person designated by the Regional Administrator" shall be substituted for the term "Director" as appropriate.

(d) No permit subject to a 301(h) variance shall be issued unless the appropriate State officials have concurred or waived concurrence pursuant to § 124.54. In the case of a permit issued to a requester in an approved State, the State Director may:

(1) Revoke any existing permit as of the effective date of the EPA-issued permit subject to a 301(h) variance; and

(2) Co-sign the permit subject to the 301(h) variance, if the Director has indicated an intent to do so in the written concurrence.

§ 124.66 Special procedures for decisions on thermal variances under section 316(a).

(a) Except as provided in § 124.65, the only issues connected with issuance of a particular permit on which EPA will make a final Agency decision before the final permit is issued under §§ 124.15 and 124.60 are whether alternative effluent limitations would be justified under CWA section 316(a) and whether cooling water intake structures will use the best available technology under section 316(b). Permit applicants who wish an early decision on these issues should request it and furnish supporting reasons at the time their permit applications are filed under § 122.21. The Regional Administrator will then decide whether or not to make an early decision. If it is granted, both the early decision on CWA section 316 (a) or (b) issues and the grant of the balance of the permit shall be considered permit issuance under these regulations, and shall be subject to the same requirements of public notice and comment and the same opportunity for an evidentiary or panel hearing under Subparts E or F.

(b) If the Regional Administrator, on review of the administrative record, determines that the information necessary to decide whether or not the CWA section 316(a) issue is not likely to be available in time for a decision on permit issuance, the Regional Administrator may issue a permit under § 124.15 for a term up to 5 years. This permit shall require achievement of the effluent limitations initially proposed for the thermal component of the discharge no later than the date otherwise required by law. However, the permit shall also afford the permittee an opportunity to file a demonstration under CWA section 316(a) after conducting such studies as are required under 40 CFR Part 125, Subpart H. A new discharger may not exceed the thermal effluent limitation which is initially proposed unless and until its CWA section 316(a) variance request is finally approved.

(c) Any proceeding held under paragraph (a) of this section shall be publicly noticed as required by § 124.10 and shall be conducted at a time allowing the permittee to take necessary measures to meet the final compliance date in the event its request for modification of thermal limits is denied

(d) Whenever the Regional Administrator defers the decision under CWA section 316(a), any decision under section 316(b) may be deferred.

Subpart E—Evidentiary Hearings for EPA-Issued NPDES Permits and EPA-Terminated RCRA Permits

§ 124.71 Applicability.

(a) The regulations in this Subpart govern all formal hearings conducted by EPA under CWA section 402, except for those conducted under Subpart F. They also govern all evidentiary hearings conducted under RCRA section 3008 in connection with the termination of a RCRA permit. This includes termination of interim status for failure to furnish information needed to make a final decision. A formal hearing is available to challenge any NPDES permit issued under §124.15 except for a general permit. Persons affected by a general permit may not challenge the conditions of a general permit as of right in further agency proceedings. They may instead either challenge the general permit in court, or apply for an individual NPDES permit under § 122.21 as authorized in § 122.28 and then request a formal hearing on the issuance or denial of an individual permit. (The Regional Administrator also has the discretion to use the procedures of Subpart F for general permits. See § 124.111).

(b) In certain cases, evidentiary hearings under this Subpart may also be held on the conditions of UIC permits, or of RCRA permits which are being issued, modified, or revoked and reissued, rather than terminated or suspended. This will occur when the conditions of the UIC or RCRA permit in question are closely linked with the conditions of an NPDES permit as to which an evidentiary hearing has been granted. See § 124.74(b)(2). Any interested person may challenge the Regional Administrator's initial new source determination by requesting an evidentiary hearing under this Part. See § 122.29.

(c) PSD permits may never be subject to an evidentiary hearing under this Subpart. Section 124.74(b)(2)(iv) provides only for consolidation of PSD permits with other permits subject to a panel hearing under Subpart F

§ 124.72 Definitions.

For the purpose of this Subpart, the following definitions are applicable:

"Hearing Clerk" means The Hearing Clerk, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

"Judicial Officer" means a permanent or temporary employee of the Agency appointed as a Judicial Officer by the Administrator under these regulations and subject to the following conditions:

(a) A Judicial Officer shall be a licensed attorney. A Judicial Officer shall not be employed in the Office of Enforcement or the Office of Water and Waste Management, and shall not participate in the consideration or decision of any case in which he or she performed investigative or prosecutorial functions, or which is factually related to such a case.

(b) The Administrator may delegate any authority to act in an appeal of a given case under this Subpart to a Judicial Officer who, in addition, may perform other duties for EPA, provided that the delegation shall not preclude a Judicial Officer from referring any motion or case to the Administrator when the Judicial Officer decides such action would be appropriate. The Administrator, in deciding a case, may consult with and assign the drafting of preliminary findings of fact and conclusions and/or a preliminary decision to any Judicial Officer.

"Party" means the EPA trial staff under § 124.78 and any person whose request for a hearing under § 124.74 or whose request to be admitted as a party or to intervene under § 124.79 or § 124.117 has been granted.

"Presiding Officer" for the purposes of this Subpart means an Administrative Law Judge appointed under 5 U.S.C. 3105 and designated to preside at the hearing. Under Subpart F other persons may also serve as hearing officers. See § 124.119.

"Regional Hearing Clerk" means an employee of the Agency designated by a Regional Administrator to establish a repository for all books, records, documents, and other materials relating to hearings under this Subpart.

§ 124.73 Filing and submission of documents.

(a) All submissions authorized or required to be filed with the Agency under this Subpart shall be filed with the Regional Hearing Clerk, unless otherwise provided by regulation. Submissions shall be considered filed on the date on which they are mailed or delivered in person to the Regional Hearing Clerk.

(b) All submissions shall be signed by the person making the submission, or by an attorney or other authorized agent or representative.

(c)(1) All data and information referred to or in any way relied upon in any submission shall be included in full and may not be incorporated by reference, unless previously submitted as part of the administrative record in the same proceeding. This requirement does not apply to State or Federal statutes and regulations, judicial decisions published in a national reporter system, officially issued EPA documents of general applicability, and any other generally available reference material which may be incorporated by reference. Any party incorporating materials by reference shall provide copies upon request by the Regional Administrator or the Presiding Officer.

(2) If any part of the material submitted is in a foreign language, it shall be accompanied by an English translation verified under oath to be complete and accurate, together with the name, address, and a brief statement of the qualifications of the person making the translation. Translations of literature or other material in a foreign language shall be accompanied by copies of the original publication.

(3) Where relevant data or information is contained in a document also containing irrelevant matter, either the irrelevant matter shall be deleted or the relevant portions shall be indicated.

(4) Failure to comply with the requirements of this section or any other requirement in this Subpart may result in the noncomplying portions of the submission being excluded from consideration. If the Regional Administrator or the Presiding Officer, on motion by any party or *sua sponte*, determines that a submission fails to meet any requirement of this Subpart, the Regional Administrator or Presiding Officer shall direct the Regional Hearing Clerk to return the submission, together with a reference to the applicable regulations. A party whose materials have been rejected has 14 days to correct the errors and resubmit, unless the Regional Administrator or the Presiding Officer finds good cause to allow a longer time.

(d) The filing of a submission shall not mean or imply that it in fact meets all applicable requirements or that it contains reasonable grounds for the action requested or that the action requested is in accordance with law.

(e) The original of all statements and documents containing factual material, data, or other information shall be signed in ink and shall state the name, address, and the representative capacity of the person making the submission.

§ 124.74 Requests for evidentiary hearing.

(a) Within 30 days following the service of notice of the Regional Administrator's final permit decision under § 124.15, any interested person may submit a request to the Regional Administrator under paragraph (b) of this section for an evidentiary hearing to reconsider or contest that decision. If such a request is submitted by a person other than the permittee, the person shall simultaneously serve a copy of the request on the permittee.

(b)(1) In accordance with § 124.76, such requests shall state each legal or factual question alleged to be at issue, and their relevance to the permit decision, together with a designation of the specific factual areas to be adjudicated and the hearing time estimated to be necessary for adjudication. Information supporting the request or other written documents relied upon to support the request shall be submitted as required by § 124.73 unless they are already part of the administrative record required by § 124.18.

Note.—This paragraph allows the submission of requests for evidentiary hearings even though both legal and factual issues may be raised, or only legal issues may be raised. In the latter case, because no factual issues were raised, the Regional Administrator would be required to deny the request. However, on review of the denial the Administrator is authorized by § 124.91(a)(1) to review policy or legal conclusions of the Regional Administrator. EPA is requiring an appeal to the Administrator even of purely legal issues involved in a permit decision to ensure that the Administrator will have an opportunity to review any permit before it will be final and subject to judicial review.

(2) Persons requesting an evidentiary hearing on an NPDES permit under this section may also request an evidentiary hearing on a RCRA or UIC permit. PSD permits may never be made part of an evidentiary hearing under Subpart E. This request is subject to all the requirements of paragraph (b)(1) of this section and in addition will be granted only if:

(i) Processing of the RCRA or UIC permit at issue was consolidated with the processing of the NPDES permit as provided in § 124.4;

(ii) The standards for granting a hearing on the NPDES permit are met;

(iii) The resolution of the NPDES permit issues is likely to make necessary or appropriate modification of the RCRA or UIC permit; and

(iv) If a PSD permit is involved, a permittee who is eligible for an evidentiary hearing under Subpart E on his or her NPDES permit requests that the formal hearing be conducted under the procedures of Subpart F and the Regional Administrator finds that consolidation is unlikly to delay final permit issuance beyond the PSD one-year statutory deadline.

(c) These requests shall also contain:

(1) The name, mailing address, and telephone number of the person making such request;

(2) A clear and concise factual statement of the nature and scope of the interest of the requester;

(3) The names and addresses of all persons whom the requester represents; and

(4) A statement by the requester that, upon motion of any party granted by the Presiding Officer, or upon order of the Presiding Officer *sua sponte* without cost or expense to any other party, the requester shall make available to appear and testify, the following:

(i) The requester;

(ii) All persons represented by the requester; and

(iii) All officers, directors, employees, consultants, and agents of the requester and the persons represented by the requester.

(5) Specific references to the contested permit conditions, as well as suggested revised or alternative permit conditions (including permit denials) which, in the judgment of the requester, would be required to implement the purposes and policies of the CWA.

(6) In the case of challenges to the application of control or treatment technologies identified in the statement of basis or fact sheet, identification of the basis for the objection, and the alternative technologies or combination of technologies which the requester believes are necessary to meet the requirements of the CWA.

(7) Identification of the permit obligations that are contested or are inseverable from contested conditions and should be stayed if the request is granted by reference to the particular contested conditions warranting the stay.

(8) Hearing requests also may ask that a formal hearing be held under the procedures set forth in Subpart F. An applicant may make such a request even if the proceeding does not constitute "initial licensing" as defined in § 124.111.

(d) If the Regional Administrator grants an evidentiary hearing request, in whole or in part, the Regional Administrator shall identify the permit conditions which have been contested by the requester and for which the evidentiary hearing has been granted. Permit conditions which are not contested or for which the Regional Administrator has denied the hearing request shall not be affected by, or considered at, the evidentiary hearing. The Regional Administrator shall specify these conditions in writing in accordance with § 124.60(c).

(e) The Regional Administrator must grant or deny all requests for an evidentiary hearing on a particular permit. All requests that are granted for a particular permit shall be combined in a single evidentiary hearing.

(f) The Regional Administrator (upon notice to all persons who have already submitted hearing requests) may extend the time allowed for submitting hearing requests under this section for good cause.

§ 124.75 Decision on request for a hearing.

(a)(1) Within 30 days following the expiration of the time allowed by § 124.74 for submitting an evidentiary hearing request, the Regional Administrator shall decide the extent to which, if at all, the request shall be granted, provided that the request conforms to the requirements of § 124.74, and sets forth material issues of fact relevant to the issuance of the permit.

(2) When an NPDES permit for which a hearing request has been granted constitutes "initial licensing" under § 124.111, the Regional Administrator may elect to hold a formal hearing under the procedures of Subpart F rather than under the procedures of this Subpart even if no person has requested that Subpart F be applied. If the Regional Administrator makes such a decision, he or she shall issue a notice of hearing under § 124.116. All subsequent proceedings shall then be governed by §§ 124.117 through 124.121, except that any reference to a draft permit shall mean the final permit.

(3) Whenever the Regional Administrator grants a request made under § 124.74(c)(8) for a formal hearing under Subpart F on an NPDES permit that does not constitute an intitial license under § 124.111, the Regional Administrator shall issue a notice of hearing under § 124.116 including a statement that the permit will be processed under the procedures of Subpart F unless a written objection is received within 30 days. If no valid objection is received, the application shall be processed in accordance with §§ 124.117 through 124.121, except that any reference to a draft permit shall mean the final permit. If a valid objection is received, this Subpart shall be applied instead.

(b) If a request for a hearing is denied in whole or in part, the Regional Administrator shall briefly state the reasons. That denial is subject to review by the Administrator under § 124.91.

§ 124.76 Obligation to submit evidence and raise issues before a final permit is issued.

No evidence shall be submitted by any party to a hearing under this Subpart that was not submitted to the administrative record required by § 124.18 as part of the preparation of and comment on a draft permit, unless good cause is shown for the failure to submit it. No issues shall be raised by any party that were not submitted to the administrative record required by § 124.18 as part of the preparation of and comment on a draft permit unless good cause is shown for the failure to submit them. Good cause includes the case where the party seeking to raise the new issues or introduce new information shows that it could not reasonably have ascertained the issues or made the information available within the time required by § 124.15; or that it could not have reasonably anticipated the relevance or materiality of the information sought to be introduced. Good cause exists for the introduction of data available on operation authorized under § 124.60(a)(2).

§ 124.77 Notice of hearing.

Public notice of the grant of an evidentiary hearing regarding a permit shall be given as provided in § 124.57(b) and by mailing a copy to all persons who commented on the draft permit, testified at the public hearing, or submitted a request for a hearing. Before the issuance of the notice, the Regional Administrator shall designate the Agency trial staff and the members of the decisional body (as defined in § 124.78).

§ 124.78 Ex parte communications.

(a) For purposes of this section, the following definitions shall apply:

(1) "Agency trial staff" means those Agency employees, whether temporary or permanent, who have been designated by the Agency under § 124.77 or § 124.116 as available to investigate, litigate, and present the evidence, arguments, and position of the Agency in the evidentiary hearing or nonadversary panel hearing. Appearance as a witness does not necessarily require a person to be designated as a member of the Agency trial staff;

(2) "Decisional body" means any Agency employee who is or may reasonably be expected to be involved in the decisional process of the proceeding including the Administrator, Judicial Officer, Presiding Officer, the Regional Administrator (if he or she does not designate himself or herself as a member of the Agency trial staff), and any of their staff participating in the decisional process. In the case of a nonadversary panel hearing, the decisional body shall also include the panel members, whether or not permanently employed by the Agency;

(3) "*Ex parte* communication" means any communication, written or oral, relating to the merits of the proceeding between the decisional body and an interested person outside the Agency or the Agency trial staff which was not originally filed or stated in the administrative record or in the hearing. *Ex parte* communications do not include:

(i) Communications between Agency employees other than between the Agency trial staff and the members of the decisional body;

(ii) Discussions between the decisional body and either:

(A) Interested persons outside the Agency, or

(B) The Agency trial staff, *if* all parties have received prior written notice of the proposed communications and have been given the opportunity to be present and participate therein.

(4) "Interested person outside the Agency" includes the permit applicant, any person who filed written comments in the proceeding, any person who requested the hearing, any person who requested to participate or intervene in the hearing, any participant in the hearing and any other interested person not employed by the Agency at the time of the communications, and any attorney of record for those persons.

(b)(1) No interested person outside the Agency or member of the Agency trial staff shall make or knowingly cause to be made to any members of the decisional body, an *ex parte* communication on the merits of the proceedings.

(2) No member of the decisional body shall make or knowingly cause to be made to any interested person outside the Agency or member of the Agency trial staff, an *ex parte* communication on the merits of the proceedings.

(3) A member of the decisional body who receives or who makes or who knowingly causes to be made a communication prohibited by this subsection shall file with the Regional Hearing Clerk all written communications or memoranda stating the substance of all oral communications together with all written responses and memoranda stating the substance of all oral responses.

(c) Whenever any member of the decisionmaking body receives an *ex parte* communication knowingly made or knowingly caused to be made by a party or representative of a party in violation of this section, the person presiding at the stage of the hearing then in progress may, to the extent consistent with justice and the policy of the CWA, require the party to show cause why its claim or interest in the proceedings should not be dismissed, denied, disregarded, or otherwise adversely affected on account of such violation.

(d) The prohibitions of this section begin to apply upon issuance of the notice of the grant of a hearing under § 124.77 or § 124.116. This prohibition terminates at the date of final agency action.

§ 124.79 Additional parties and issues.

(a) Any person may submit a request to be admitted as a party within 15 days after the date of mailing, publication, or posting of notice of the grant of an evidentiary hearing, whichever occurs last. The Presiding Officer shall grant requests that meet the requirements of §§ 124.74 and 124.76.

(b) After the expiration of the time prescribed in paragraph (a) of this section any person may file a motion for leave to intervene as a party. This motion must meet the requirements of §§ 124.74 and 124.76 and set forth the grounds for the proposed intervention. No factual or legal issues, besides those raised by timely hearing requests, may be proposed except for good cause. A motion for leave to intervene must also contain a verified statement showing good cause for the failure to file a timely request to be admitted as a party. The Presiding Officer shall grant the motion only upon an express finding on the record that:

(1) Extraordinary circumstances justify granting the motion;

(2) The intervener has consented to be bound by:

(i) Prior written agreements and stipulations by and between the existing parties; and

(ii) All orders previously entered in the proceedings; and

(3) Intervention will not cause undue delay or prejudice the rights of the existing parties.

§ 124.80 Filing and service.

(a) An original and one (1) copy of all written submissions relating to an evidentiary hearing filed after the notice is published shall be filed with the Regional Hearing Clerk.

(b) The party filing any submission shall also serve a copy of each submission upon the Presiding Officer and each party of record. Service shall be by mail or personal delivery.

(c) Every submission shall be accompanied by an acknowledgment of service by the person served or a certificate of service citing the date, place, time, and manner of service and the names of the persons served.

(d) The Regional Hearing Clerk shall maintain and furnish a list containing the name, service address, and telephone number of all parties and their attorneys or duly authorized representatives to any person upon request.

§ 124.81 Assignment of Administrative Law Judge.

No later than the date of mailing, publication, or posting of the notice of a grant of an evidentiary hearing, whichever occurs last, the Regional Administrator shall refer the proceeding to the Chief Administrative Law Judge who shall assign an Administrative Law Judge to serve as Presiding Officer for the hearing.

§ 124.82 Consolidation and severance.

(a) The Administrator, Regional Administrator, or Presiding Officer has the discretion to consolidate, in whole or in part, two or more proceedings to be held under this Subpart, whenever it appears that a joint hearing on any or all of the matters in issue would expedite or simplify consideration of the issues and that no party would be prejudiced thereby. Consolidation shall not affect the right of any party to raise issues that might have been raised had there been no consolidation.

(b) If the Presiding Officer determines consolidation is not conducive to an expeditious, full, and fair hearing, any party or issues may be severed and heard in a separate proceeding.

§ 124.83 Prehearing conferences.

(a) The Presiding Officer, *sua sponte*, or at the request of any party, may direct the parties or their attorneys or duly authorized representatives to appear at a specified time and place for one or more conferences before or during a hearing, or to submit written proposals or correspond for the purpose of considering any of the matters set forth in paragraph (c) of this section.

(b) The Presiding Officer shall allow a reasonable period before the hearing begins for the orderly completion of all prehearing procedures and for the submission and disposition of all prehearing motions. Where the circumstances warrant, the Presiding Officer may call a prehearing conference to inquire into the use of available procedures contemplated by the parties and the time required for their completion, to establish a schedule for their completion, and to set a tentative date for beginning the hearing.

(c) In conferences held, or in suggestions submitted, under paragraph (a) of this section, the following matter may be considered:

(1) Simplification, clarification, amplification, or limitation of the issues.

(2) Admission of facts and of the genuineness of documents, and stipulations of facts.

(3) Objections to the introduction into evidence at the hearing of any written testimony, documents, papers, exhibits, or other submissions proposed by a party, except that the administrative record required by § 124.19 shall be received in evidence subject to the provisions of § 124.85(d)(2). At any time before the end of the hearing any party may make, and the Presiding Officer shall consider and rule upon, motions to strike testimony or other evidence other than the administrative record on the grounds of relevance, competency, or materiality.

(4) Matters subject to official notice may be taken.

(5) Scheduling as many of the following as are deemed necessary and proper by the Presiding Officer:

(i) Submission of narrative statements of position on each factual issue in controversy;

(ii) Submission of written testimony and documentary evidence (e.g., affidavits, data, studies, reports, and any other type of written material) in support of those statements; or

(iii) Requests by any party for the production of additional documentation, data, or other information relevant and material to the facts in issue.

(6) Grouping participants with substantially similar interests to eliminate redundant evidence, motions, and objections.

(7) Such other matters that may expedite the hearing or aid in the disposition of the matter.

(d) At a prehearing conference or at some other reasonable time set by the Presiding Officer, each party shall make available to all other parties the names of the expert and other witnesses it expects to call. At its discretion or at the request of the Presiding Officer, a party may include a brief narrative summary of any witness's anticipated testimony. Copies of any written testimony, documents, papers, exhibits, or materials which a party expects to introduce into evidence, and the administrative record required by § 124.18 shall be marked for identification as ordered by the Presiding Officer. Witnesses, proposed written testimony, and other evidence may be added or amended upon order of the Presiding Officer for good cause shown. Agency employees and consultants shall be made available as witnesses by the Agency to the same extent that production of such witnesses is required of other parties under § 124.74(c)(4). (See also § 124.85(b)(16).)

(e) The Presiding Officer shall prepare a written prehearing order reciting the actions taken at each prehearing conference and setting forth the schedule for the hearing, unless a transcript has been taken and accurately reflects these matters. The order shall include a written statement of the areas of factual agreement and disagreement and of the methods and procedures to be used in developing the evidence and the respective duties of the parties in connection therewith. This order shall control the subsequent course of the hearing unless modified by the Presiding Officer for good cause shown.

§ 124.84 Summary determination.

(a) Any party to an evidentiary hearing may move with or without supporting affidavits and briefs for a summary determination in its favor upon any of the issues being adjudicated on the basis that there is no genuine issue of material fact for determination. This motion shall be filed at least 45 days before the date set for the hearing, except that upon good cause shown the motion may be filed at any time before the close of the hearing.

(b) Any other party may, within 30 days after service of the motion, file and serve a response to it or a countermotion for summary determination. When a motion for summary determination is made and supported, a party opposing the motion may not rest upon mere allegations or denials but must show, by affidavit or by other materials subject to consideration by the Presiding Officer, that there is a genuine issue of material fact for determination at the hearing.

(c) Affidavits shall be made on personal knowledge, shall set forth facts that would be admissible in evidence, and shall show affirmatively that the affiant is competent to testify to the matters stated therein.

(d) The Presiding Officer may set the matter for oral argument and call for the submission of proposed findings, conclusions, briefs, or memoranda of law. The Presiding Officer shall rule on the motion not more than 30 days after the date responses to the motion are filed under paragraph (b) of this section.

(e) If all factual issues are decided by summary determination, no hearing will be held and the Presiding Officer shall prepare an initial decision under § 124.89. If summary determination is denied or if partial summary determination is granted, the Presiding Officer shall issue a memorandum opinion and order, interlocutory in character, and the hearing will proceed on the remaining issues. Appeals from interlocutory rulings are governed by § 124.90.

(f) Should it appear from the affidavits of a party opposing a motion for summary determination that he or she cannot for reasons stated present, by affidavit or otherwise, facts essential to justify his or her opposition, the Presiding Officer may deny the motion or order a continuance to allow additional affidavits or other information to be obtained or may make such other order as is just and proper.

§ 124.85 Hearing procedure.

(a)(1) The permit applicant always bears the burden of persuading the Agency that a permit authorizing pollutants to be discharged should be issued and not denied. This burden does not shift.

Note.—In many cases the documents contained in the administrative record, in particular the fact sheet or statement of basis and the response to comments, should adequately discharge this burden.

(2) The Agency has the burden of going forward to present an affirmative case in support of any challenged condition of a final permit.

(3) Any hearing participant who, by raising material issues of fact, contends:

(i) That particular conditions or requirements in the permit are improper or invalid, and who desires either:

(A) The inclusion of new or different conditions or requirements; or

(B) The deletion of those conditions or requirements; or

(ii) That the denial or issuance of a permit is otherwise improper or invalid, shall have the burden of going forward to present an affirmative case at the conclusion of the Agency case on the challenged requirement.

(b) The Presiding Officer shall conduct a fair and impartial hearing, take action to avoid unnecessary delay in the disposition of the proceedings, and maintain order. For these purposes, the Presiding Officer may:

(1) Arrange and issue notice of the date, time, and place of hearings and conferences;

(2) Establish the methods and procedures to be used in the development of the evidence;

(3) Prepare, after considering the views of the participants, written statements of areas of factual disagreement among the participants;

(4) Hold conferences to settle, simplify, determine, or strike any of the issues in a hearing, or to consider other matters that may facilitate the expeditious disposition of the hearing;

(5) Administer oaths and affirmations;

(6) Regulate the course of the hearing and govern the conduct of participants;

(7) Examine witnesses;

(8) Identify and refer issues for interlocutory decision under § 124.90;

(9) Rule on, admit, exclude, or limit evidence;

(10) Establish the time for filing motions, testimony, and other written evidence, briefs, findings, and other submissions;

(11) Rule on motions and other procedural matters pending before him, including but not limited to motions for summary determination in accordance with § 124.84;

(12) Order that the hearing be conducted in stages whenever the number of parties is large or the issues are numerous and complex;

(13) Take any action not inconsistent with the provisions of this Subpart for the maintenance of order at the hearing and for the expeditious, fair, and impartial conduct of the proceeding;

(14) Provide for the testimony of opposing witnesses to be heard simultaneously or for such witnesses to meet outside the hearing to resolve or isolate issues or conflicts;

(15) Order that trade secrets be treated as confidential business information in accordance with §§ 122.7 (NPDES) and 270.12 (RCRA) and 40 CFR Part 2; and

(16) Allow such cross-examination as may be required for a full and true disclosure of the facts. No cross-examination shall be allowed on questions of policy except to the extent required to disclose the factual basis for permit requirements, or on questions of law, or regarding matters (such as the validity of effluent limitations guidelines) that are not subject to challenge in an evidentiary hearing. No Agency witnesses shall be required to testify or be made available for cross-examination on such matters. In deciding whether or not to allow cross examination, the Presiding Officer shall consider the likelihood of clarifying or resolving a disputed issue of material fact compared to other available methods. The party seeking cross-examination has the burden of demonstrating that this standard has been met.

(c) All direct and rebuttal evidence at an evidentiary hearing shall be submitted in written form, unless, upon motion and good cause shown, the Presiding Officer determines that oral presentation of the evidence on any particular fact will materially assist in the efficient identification and clarification of the issues. Written testimony shall be prepared in narrative form.

(d)(1) The Presiding Officer shall admit all relevant, competent, and material evidence, except evidence that is unduly repetitious. Evidence may be received at any hearing even though inadmissible under the rules of evidence applicable to judicial proceedings. The weight to be given evidence shall be determined by its reliability and probative value.

(2) The administrative record required by § 124.18 shall be admitted and received in evidence. Upon motion by any party the Presiding Officer may direct that a witness be provided to sponsor a portion or portions of the administrative record. The Presiding Officer, upon finding that the standards in § 124.85(b)(3) have been met, shall direct the appropriate party to produce the witness for cross-examination. If a sponsoring witness cannot be provided, the Presiding Officer may reduce the weight accorded the appropriate portion of the record.

[Note.—*Receiving the administrative record into evidence automatically serves several purposes: (1) it documents the prior course of the proceedings; (2) it provides a record of the views of affected persons for consideration by the agency decisionmaker; and (3) it provides factual material for use by the decisionmaker.*]

(3) Whenever any evidence or testimony is excluded by the Presiding Officer as inadmissible, all such evidence or testimony existing in written form shall remain a part of the record as an offer of proof. The party seeking the admission of oral testimony may make an offer of proof, by means of a brief statement on the record describing the testimony excluded.

(4) When two or more parties have substantially similar interests and positions, the Presiding Officer may limit the number of attorneys or other party representatives who will be permitted to cross-examine and to make and argue motions and objections on behalf of those parties. Attorneys may, however, engage in cross-examination relevant to matters not adequately covered by previous cross-examination.

(5) Rulings of the Presiding Officer on the admissibility of evidence or testimony, the propriety of cross-examination, and other procedural matters shall appear in the record and shall control further proceedings, unless reversed as a result of an interlocutory appeal taken under § 124.90.

(6) All objections shall be made promptly or be deemed waived. Parties shall be presumed to have taken exception to an adverse ruling. No objection shall be deemed waived by further participation in the hearing.

§ 124.86 Motions.

(a) Any party may file a motion (including a motion to dismiss a particular claim on a contested issue) with the Presiding Officer on any matter relating to the proceeding. All motions shall be in writing and served as provided in § 124.80 except those made on the record during an oral hearing before the Presiding Officer.

(b) Within 10 days after service of any written motion, any part to the proceeding may file a response to the motion. The time for response may be shortened to 3 days or extended for an additional 10 days by the Presiding Officer for good cause shown.

(c) Notwithstanding § 122.4, any party may file with the Presiding Officer a motion seeking to apply to the permit any regulatory or statutory provision issued or made available after the issuance of the permit under § 124.15. The Presiding Officer shall grant any motion to apply a new statutory provision unless he or she finds it contrary to legislative intent. The Presiding Officer may grant a motion to apply a new regulatory requirement when appropriate to carry out the purpose of CWA, and when no party would be unduly prejudiced thereby.

§ 124.87 Record of hearings.

(a) All orders issued by the Presiding Officer, transcripts of oral hearings or arguments, written statements of position, written direct and rebuttal testimony, and any other data, studies, reports, documentation, information and other written material of any kind submitted in the proceeding shall be a part of the hearing record and shall be available to the public except as provided in §§ 122.7 (NPDES) and 270.12 (RCRA), in the Office of the Regional Hearing Clerk, as soon as it is received in that office.

(b) Evidentiary hearings shall be either stenographically reported verbatim or tape recorded, and thereupon transcribed. After the hearing, the reporter shall certify and file with the Regional Hearing Clerk:

(1) The original of the transcript, and

(2) The exhibits received or offered into evidence at the hearing.

(c) The Regional Hearing Clerk shall promptly notify each of the parties of the filing of the certified transcript of proceedings. Any party who desires a copy of the transcript of the hearing may obtain a copy of the hearing transcript from the Regional Hearing Clerk upon payment of costs.

(d) The Presiding Officer shall allow witnesses, parties, and their counsel an opportunity to submit such written proposed corrections of the transcript of any oral testimony taken at the hearing, pointing out errors that may have been made in transcribing the testimony, as are required to make the transcript conform to the testimony. Except in unusual cases, no more than 30 days shall be allowed for submitting such corrections from the day a complete transcript of the hearing becomes available.

§ 124.88 Proposed findings of fact and conclusions; brief.

Within 45 days after the certified transcript is filed, any party may file with the Regional Hearing Clerk proposed findings of fact and conclusions of law and a brief in support thereof. Briefs shall contain appropriate references to the record. A copy of these findings, conclusions, and brief shall be served upon all the other parties and the Presiding Officer. The Presiding Officer, for good cause shown, may extend the time for filing the proposed findings and conclusions and/or the brief. The Presiding Officer may allow reply briefs.

§ 124.89 Decisions.

(a) The Presiding Officer shall review and evaluate the record, including the proposed findings and conclusions, any briefs filed by the parties, and any interlocutory decisions under § 124.90 and shall issue and file his initial decision with the Regional Hearing Clerk. The Regional Hearing Clerk shall immediately serve copies of the initial decision upon all parties (or their counsel of record) and the Administrator.

(b) The initial decision of the Presiding Officer shall automatically become the final decision 30 days after its service unless within that time:

(1) A party files a petition for review by the Administrator pursuant to § 124.91; or

(2) The Administrator *sua sponte* files a notice that he or she will review the decision pursuant to § 124.91.

§ 124.90 Interlocutory appeal.

(a) Except as provided in this section, appeals to the Administrator may be taken only under § 124.91. Appeals from orders or rulings may be taken under this section only if the Presiding Officer, upon motion of a party, certifies those orders or rulings to the Administrator for appeal on the record. Requests to the Presiding Officer for certification must be filed in writing within 10 days of service of notice of the order, ruling, or decision and shall state briefly the grounds relied on.

(b) The Presiding Officer may certify an order or ruling for appeal to the Administrator if:

(1) The order or ruling involves an important question on which there is substantial ground for difference of opinion, and

(2) Either:

(i) An immediate appeal of the order or ruling will materially advance the ultimate completion of the proceeding; or

(ii) A review after the final order is issued will be inadequate or ineffective.

(c) If the Administrator decides that certification was improperly granted, he or she shall decline to hear the appeal. The Administrator shall accept or decline all interlocutory appeals within 30 days of their submission; if the Administrator takes no action within that time, the appeal shall be automatically dismissed. When the Presiding Officer declines to certify an order or ruling to the Administrator for an interlocutory appeal, it may be reviewed by the Administrator only upon appeal from the initial decision of the Presiding Officer, except when the Administrator determines, upon motion of a party and in exceptional circumstances, that to delay review would not be in the public interest. Such motion shall be made within 5 days after receipt of notification that the Presiding Officer has refused to certify an order or ruling for interlocutory appeal to the Administrator. Ordinarily, the interlocutory appeal will be decided on the basis of the submissions made to the Presiding Officer. The Administrator may, however, allow briefs and oral argument.

(d) In exceptional circumstances, the Presiding Officer may stay the proceeding pending a decision by the Administrator upon an order or ruling certified by the Presiding Officer for an interlocutory appeal, or upon the denial of such certification by the Presiding Officer.

(e) The failure to request an interlocutory appeal shall not prevent taking exception to an order or ruling in an appeal under § 124.91.

§ 124.91. Appeal to the Administrator.

(a)(1) Within 30 days after service of an initial decision, or a denial in whole or in part of a request for an evidentiary hearing, any party or requester, as the case may be, may appeal any matter set forth in the initial decision or denial, or any adverse order or ruling to which the party objected during the hearing, by filing with the Administrator notice of appeal and petition for review. The petition shall include a statement of the supporting reasons and, when appropriate, a showing that the initial decision contains:

(i) A finding of fact or conclusion of law which is clearly erroneous, or

(ii) An exercise of discretion or policy which is important and which the Administrator should review.

(2) Within 15 days after service of a petition for review under paragraph (c)(1) of this section, any other party to the proceeding may file a responsive petition.

(3) Policy decisions made or legal conclusions drawn in the course of denying a request for an evidentiary hearing may be reviewed and changed by the Administrator in an appeal under this section.

(b) Within 30 days of an initial decision or denial or a request for an evidentiary hearing the Administrator may, *sua sponte*, review such decision. Within 7 days after the Administrator has decided under this section to review an initial decision or the denial of a request for an evidentiary hearing, notice of that decision shall be served by mail upon all affected parties and the Regional Administrator.

(c)(1) Within a reasonable time following the filing of the petition for review, the Administrator shall issue an order either granting or denying the petition for review. When the Administrator grants a petition for review or determines under paragraph (b) of this section to review a decision, the Administrator may notify the parties that only certain issues shall be briefed.

(2) Upon granting a petition for review, the Regional Hearing Clerk shall promptly forward a copy of the record to the Judicial Officer and shall retain a complete duplicate copy of the record in the Regional Office.

(d) Notwithstanding the grant of a petition for review or a determination under paragraph (b) of this section to review a decision, the Administrator may summarily affirm without opinion and initial decision or the denial of a request for an evidentiary hearing.

(e) A petition to the Administrator under paragraph (a) of this section for review of any initial decision or the denial of an evidentiary hearing is, under 5 U.S.C. § 704, a prerequisite to the seeking of judicial review of the final decision of the Agency.

(f) If a party timely files a petition for review or if the Administrator *sua sponte* orders review, then, for purposes of judicial review, final Agency action on an issue occurs as follows:

(1) If the Administrator denies review or summarily affirms without opinion as provided in § 124.91(d), then the initial decision or denial becomes the final Agency action and occurs upon the service of notice of the Administrator's action.

(2) If the Administrator issues a decision without remanding the proceeding then the final permit, redrafted as required by the Administrator's original decision, shall be reissued and served upon all parties to the appeal.

(3) If the Administrator issues a decision remanding the proceeding, then final Agency action occurs upon completion of the remanded proceeding, including any appeals to the Administrator from the results of the remanded proceeding.

(g) The petitioner may file a brief in support of the petition within 21 days after the Administrator has granted a petition for review. Any other party may file a responsive brief within 21 days of service of the petitioner's brief. The petitioner then may file a reply brief within 14 days of service of the responsive brief. Any person may file an *amicus brief* for the consideration of the Administrator within the same time periods that govern reply briefs. If the Administrator determines, *sua sponte*, to review an initial Regional Administrator's decision or the denial of a request for an evidentiary hearing, the Administrator shall notify the parties of the schedule for filing briefs.

(h) Review by the Administrator of an initial decision or the denial of an evidentiary hearing shall be limited to the issues specified under paragraph (a) of this section, except that after notice to all parties, the Administrator may raise and decide other matters which he or she considers material on the basis of the record.

Subpart F—Non-Adversary Panel Procedures

§ 124.111 Applicability.

(a) Except as set forth in this Subpart, this Subpart applies in lieu of, and to complete exclusion of, Subparts A through E in the following cases:

(1)(i) In any proceedings for the issuance of any NPDES permit which constitutes "initial licensing" under the Administrative Procedure Act, when the Regional Administrator elects to apply this Subpart and explicitly so states in the public notice of the draft permit under § 124.10 or in a supplemental notice under § 124.14. If an NPDES draft permit is processed under this Subpart, any other draft permits which have been consolidated with the NPDES draft permit under § 124.4 shall likewise be processed under this Subpart, except for PSD permits when the Regional Administrator makes a finding under § 124.4(e) that consolidation would be likely to result in missing the one year statutory deadline for issuing a final PSD permit under the CAA.

(ii) "Initial licensing" includes both the first decision on an NPDES permit applied for by a discharger that has not previously held one and the first decision on any variance requested by a discharger.

(iii) To the extent this Subpart is used to process a request for a variance under CWA section 301(h), the term "Administrator or a person designated by the Administrator" shall be substituted for the term "Regional Administrator".

(2) In any proceeding for which a hearing under this Subpart was granted under § 124.75 following a request for a formal hearing under § 124.74. See §§ 124.74(c)(8) and 124.75(a)(2).

(3) Whenever the Regional Administrator determines as a matter of discretion that the more formalized mechanisms of this Subpart should be used to process draft NPDES general permits (for which evidentiary hearings are unavailable under § 124.71), or draft RCRA or draft UIC permits.

(b) EPA shall not apply these procedures to a decision on a variance where Subpart E proceedings are simultaneously pending on the other conditions of the permit. See § 124.64(b).

§ 124.112 Relation to other subparts.

The following provisions of Subparts A through E apply to proceedings under this Subpart:

(a)(1) §§ 124.1 through 124.10.

(2) § 124.14 "Reopening of comment period."

(3) § 124.16 "Stays of contested permit conditions."

(4) § 124.20 "Computation of time."

(b)(1) § 124.41 "Definitions applicable to PSD Permits."

(2) § 124.42 "Additional procedures for PSD permits affecting Class I Areas."

(c)(1) §§ 124.51 through 124.56.

(2) § 124.57(c) "Public notice."

(3) §§ 124.58 through 124.66.

(d)(1) § 124.72 "Definitions," except for the definition of "Presiding Officer," see § 124.119.

(2) § 124.73 "Filing."

(3) § 124.78 "*Ex parte* communications."

(4) § 124.80 "Filing and service."

(5) § 124.85(a) (Burden of proof).

(6) § 124.86 "Motions."

(7) § 124.87 "Record of hearings."

(8) § 124.90 "Interlocutory appeal."

(e) In the case of permits to which this Subpart is made applicable after a final permit has been issued under § 124.15, either by the grant under § 124.75 of a hearing request under § 124.74, or by notice of supplemental proceedings under § 124.14, §§ 124.13 and 124.78 shall also apply.

§ 124.113 Public notice of draft permits and public comment period.

Public notice of a draft permit under this Subpart shall be given as provided in §§ 124.10 and 124.57. At the discretion of the Regional Administrator, the public comment period specified in this notice may include an opportunity for a public hearing under § 124.12.

§ 124.114 Request for hearing.

(a) By the close of the comment period under § 124.113, any person may request the Regional Administrator to hold a panel hearing on the draft permit by submitting a written request containing the following:

(1) A brief statement of the interest of the person requesting the hearing;

(2) A statement of any objections to the draft permit;

(3) A statement of the issues which such person proposes to raise for consideration at the hearing; and

(4) Statements meeting the requirements of § 124.74(c)(1)–(5).

(b) Whenever (1) a written request satisfying the requirements of paragraph (a) of this section has been received and presents genuine issues of material fact, or (2) the Regional Administrator determines *sua sponte* that a hearing under this Subpart is necessary or appropriate, the Regional Administrator shall notify each person requesting the hearing and the applicant, and shall provide public notice under § 124.57(c). If the Regional Administrator determines that a request does not meet the requirements of paragraph (a) of this section or does not present genuine issues of fact, the Regional Administrator may deny the request for the hearing and shall serve written notice of that determination on all persons requesting the hearing.

(c) The Regional Administrator may also decide before a draft permit is prepared under § 124.6 that a hearing should be held under this section. In such cases, the public notice of the draft permit shall explicitly so state and shall contain the information required by § 124.57(c). This notice may also provide for a hearing under § 124.12 before a hearing is conducted under this section.

§ 124.115 Effect of denial of or absence of request for hearing.

If no request for a hearing is made under § 124.114, or if all such requests are denied under that section, the Regional Administrator shall then prepare a recommended decision under § 124.124. Any person whose hearing request has been denied may then appeal that recommended decision to the Administrator as provided in § 124.91.

§ 124.116 Notice of hearing.

(a) Upon granting a request for a hearing under § 124.114 the Regional Administrator shall promptly publish a notice of the hearing as required under § 124.57(c). The mailed notice shall include a statement which indicates whether the Presiding Officer or the Regional Administrator will issue the Recommended decision. The mailed notice shall also allow the participants at least 30 days to submit written comments as provided under § 124.118.

(b) The Regional Administrator may also give notice of a hearing under this section at the same time as notice of a draft permit under § 124.113. In that case the comment periods under §§ 124.113 and 124.118 shall be merged and held as a single public comment period.

(c) The Regional Administrator may also give notice of hearing under this section in response to a hearing request under § 124.74 as provided in § 124.75.

§ 124.117 Request to participate in hearing.

(a) Persons desiring to participate in any hearing noticed under this section, shall file a request to participate with the Regional Hearing Clerk before the deadline set forth in the notice of the grant of the hearing. Any person filing such a request becomes a party to the proceedings within the meaning of the Administrative Procedure Act. The request shall include:

(1) A brief statement of the interest of the person in the proceeding;

(2) A brief outline of the points to be addressed;

(3) An estimate of the time required; and

(4) The requirements of § 124.74(c)(1)–(5).

(5) If the request is submitted by an organization, a nonbinding list of the persons to take part in the presentation.

(b) As soon as practicable, but in no event later than 2 weeks before the scheduled date of the hearing, the Presiding Officer shall make a hearing schedule available to the public and shall mail it to each person who requested to participate in the hearing.

§ 124.118 Submission of written comments on draft permit.

(a) No later than 30 days before the scheduled start of the hearing (or such other date as may be set forth in the notice of hearing), each party shall file all of its comments on the draft permit, based on information in the administrative record and any other information which is or reasonably could have been available to that party. All comments shall include any affidavits, studies, data, tests, or other materials relied upon for making any factual statements in the comments.

(b)(1) Written comments filed under paragraph (a) of this section shall constitute the bulk of the evidence submitted at the hearing. Oral statements at the hearing should be brief and in the nature of argument. They shall be restricted either to points that could not have been made in written comments, or to emphasize points which are made in the comments, but which the party believes can more effectively be argued in the hearing context.

(2) Notwithstanding the foregoing, within two weeks prior to the deadline specified in paragraph (a) of this section for the filing of comments, any party may move to submit all or part of its comments orally at the hearing in lieu of submitting written comments and the Presiding Officer shall, within one week, grant such motion if the Presiding Officer finds that the party will be prejudiced if required to submit the comments in written form.

(c) Parties to any hearing may submit written material in response to the comments filed by other parties under paragraph (a) of this section at the time they appear at the panel stage of the hearing under § 124.120.

§ 124.119 Presiding Officer.

(a)(1)(i) Before giving notice of a hearing under this Subpart in a proceeding involving an NPDES permit, the Regional Administrator shall request that the Chief Administrative Law Judge assign an Administrative Law Judge as the Presiding Officer. The Chief Administrative Law Judge shall then make the assignment.

(ii) If all parties to such a hearing waive in writing their statutory right to have an Administrative Law Judge named as the Presiding Officer in a hearing subject to this subparagraph the Regional Administrator may name a Presiding Officer under paragraph (a)(2)(ii) of this section.

(2) Before giving notice of a hearing under this Subpart in a proceeding which does not involve an NPDES permit or a RCRA permit termination, the Regional Administrator shall either:

(i) Request that the Chief Administrative Law Judge assign an Administrative Law Judge as the Presiding Officer. The Chief Administrative Law Judge may thereupon make such an assignment if he concludes that the other duties of his office allow, or

(ii) Name a lawyer permanently or temporarily employed by the Agency and without prior connection with the proceeding to serve as Presiding Officer;

(iii) If the Chief Administrative Law Judge declines to name an Administrative Law Judge as Presiding Officer upon receiving a request under paragraph (a)(2)(i) of this section, the Regional Administrator shall name a Presiding Officer under paragraph (a)(2)(ii) of this section.

(b) It shall be the duty of the Presiding Officer to conduct a fair and impartial hearing. The Presiding Officer shall have the authority:

(1) Conferred by § 124.85(b)(1)–(15), § 124.83 (b) and (c), and;

(2) To receive relevant evidence, provided that all comments under §§ 124.113 and 124.118, the record of the panel hearing under § 124.120, and the administrative record, as defined in § 124.9 or in § 124.18 as the case may be shall be received in evidence, and

(3) Either upon motion or *sua sponte*, to change the date of the hearing under § 124.120, or to recess such a hearing until a future date. In any such case the notice required by § 124.10 shall be given.

§ 124.120 Panel hearing.

(a) A Presiding Officer shall preside at each hearing held under this Subpart. An EPA panel shall also take part in the hearing. The panel shall consist of three or more EPA temporary or permanent employees having special expertise or responsibility in areas related to the hearing issue, at least two of whom shall not have taken part in writing the draft permit. If appropriate for the evaluation of new or different issues presented at the hearing, the panel membership, at the discretion of the Regional Administrator, may change or may include persons not employed by EPA.

(b) At the time of the hearing notice under § 124.116, the Regional Administrator shall designate the persons who shall serve as panel members for the hearing and the

Regional Administrator shall file with the Regional Hearing Clerk the name and address of each person so designated. The Regional Administrator may also designate EPA employees who will provide staff support to the panel but who may or may not serve as panel members. The designated persons shall be subject to the *ex parte* rules in § 124.78. The Regional Administrator may also designate Agency trial staff as defined in § 124.78 for the hearing.

(c) At any time before the close of the hearing the Presiding Officer, after consultation with the panel, may request that any person having knowledge concerning the issues raised in the hearing and not then scheduled to participate therein appear and testify at the hearing.

(d) The panel members may question any person participating in the panel hearing. Cross-examination by persons other than panel members shall not be permitted at this stage of the proceeding except when the Presiding Officer determines, after consultation with the panel, that the cross-examination would expedite consideration of the issues. However, the parties may submit written questions to the Presiding Officer for the Presiding Officer to ask the participants, and the Presiding Officer may, after consultation with the panel, and at his or her sole discretion, ask these questions.

(e) At any time before the close of the hearing, any party may submit to the Presiding Officer written questions specifically directed to any person appearing or testifying in the hearing. The Presiding Officer, after consultation with the panel may, at his sole discretion, ask the written question so submitted.

(f) Within 10 days after the close of the hearing, any party shall submit such additional written testimony, affidavits, information, or material as they consider relevant or which the panel may request. These additional submissions shall be filed with the Regional Hearing Clerk and shall be a part of the hearing record.

§ 124.121 Opportunity for cross-examination.

(a) Any party to a panel hearing may submit a written request to cross-examine any issue of material fact. The motion shall be submitted to the Presiding Officer within 15 days after a full transcript of the panel hearing is filed with the Regional Hearing Clerk and shall specify:

(1) The disputed issue(s) of material fact. This shall include an explanation of why the questions at issue are factual rather than of an analytical or policy nature, the extent to which they are in dispute in light of the then-existing record, and the extent to which they are material to the decision on the application; and

(2) The person(s) to be cross-examined, and an estimate of the time necessary to conduct the cross-examination. This shall include a statement explaining how the cross-examination will resolve the disputed issues of material fact.

(b) After receipt of all motions for cross-examination under paragraph (a) of this section, the Presiding Officer, after consultation with the hearing panel, shall promptly issue an order either granting or denying each request. Orders granting requests for cross-examination shall be served on all parties and shall specify:

(1) The issues on which cross-examination is granted;

(2) The persons to be cross-examined on each issue;

(3) The persons allowed to conduct cross-examination;

(4) Time limits for the examination of witnesses by each cross-examiner; and

(5) The date, time, and place of the supplementary hearing at which cross-examination shall take place.

(6) In issuing this order, the Presiding Officer may determine that two or more parties have the same or similar interests and that to prevent unduly repetitious cross-examination, they should be required to choose a single representative for purposes of cross-examination. In that case, the order shall simply assign time for cross-examination without further identifying the representative. If the designated parties fail to choose a single representative, the Presiding Officer may divide the assigned time among the representatives or issue any other order which justice may require.

(d) The Presiding Officer and, to the extent possible, the members of the hearing panel shall be present at the supplementary hearing. During the course of the hearing, the Presiding Officer shall have authority to modify any order issued under paragraph (b) of this section. A record will be made under § 124.87.

(e)(1) No later than the time set for requesting cross-examination, a party may request that alternative methods of clarifying the record (such as the submission of additional written information) be used in lieu of or in addition to cross-examination. The Presiding Officer shall issue an order granting or denying this request at the time he or she issues (or would have issued) an order granting or denying a request for cross-examination, under paragraph (b) of this section. If the request for an alternative method is granted, the order shall specify the alternative and any other relevant information (such as the due date for submitting written information).

(2) In passing on any request for cross-examination submitted under paragraph (a) of this section, the Presiding Officer may, as a precondition to ruling on the merits of the request, require alternative means of clarifying the record to be used whether or not a request to do so has been made. The party requesting cross-examination shall have one week to comment on the results of using the alternative method. After considering these comments the Presiding Officer shall issue an order granting or denying the request for cross-examination.

(f) The provisions of § 124.85(d)(2) apply to proceedings under this Subpart

§ 124.122 Record for final permit.

The record on which the final permit shall be based in any proceeding under this Subpart consists of:

(a) The administrative record compiled under §§ 124.9 or 124.18 as the case may be;

(b) Any material submitted under § 124.78 relating to *ex parte* contacts;

(c) All notices issued under § 124.113;

(d) All requests for hearings, and rulings on those requests, received or issued under § 124.114;

(e) Any notice of hearing issued under § 124.116;

(f) Any request to participate in the hearing received under § 124.117;

(g) All comments submitted under § 124.118, any motions made under that section and the rulings on them, and any comments filed under § 124.113;

(h) The full transcript and other material received into the record of the panel hearing under § 124.120;

(i) Any motions for, or rulings on, cross-examination filed or issued under § 124.121;

(j) Any motions for, orders for, and the results of, any alternatives to cross-examination under § 124.121, and

(k) The full transcript of any cross-examination held.

§ 124.123 Filing of brief, proposed findings of fact and conclusions of law and proposed modified permit.

Unless otherwise ordered by the Presiding Officer, each party may, within 20 days after all requests for cross-examination are denied or after a transcript of the full hearing including any cross-examination becomes available, submit proposed findings of fact; conclusions regarding material issues of law, fact, or discretion; a proposed modified permit (if such person is urging that the draft or final permit be modified); and a brief in support thereof; together with references to relevant pages of transcript and to relevant exhibits. Within 10 days thereafter each party may file a reply brief concerning matters contained in opposing briefs and containing alternative findings of fact; conclusions regarding material issues of law, fact, or discretion; and a proposed modified permit where appropriate. Oral argument may be held at the discretion of the Presiding Officer on motion of any party or *sua sponte*.

§ 124.124 Recommended decision.

The person named to prepare the decision shall, as soon as practicable after the conclusion of the hearing, evaluate the record of the hearing and prepare and file a recommended decision with the Regional Hearing Clerk. That person may consult with, and receive assistance from, any member of the hearing panel in drafting the recommended decision, and may delegate the preparation of the recommended decision to the panel or to any member or members of it. This decision shall contain findings of fact, conclusions regarding all material issues of law, and a recommendation as to whether and in what respect the draft or final permit should be modified. After the recommended decision has been filed, the Regional Hearing Clerk shall serve a copy of that decision on each party and upon the Administrator.

§ 124.125 Appeal from or review of recommended decision.

(a)(1) Within 30 days after service of the recommended decision, any party may take exception to any matter set forth in that decision or to any adverse order or ruling of the Presiding Officer to which that party objected, and may appeal those exceptions to the Administrator as provided in § 124.91, except that references to "initial decision" will mean recommended decision under § 124.124.

§ 124.126 Final decision.

As soon as practicable after all appeal proceedings have been completed, the Administrator shall issue a final decision. That final decision shall include findings of fact; conclusions regarding material issue of law, fact, or discretion, as well as reasons therefore; and a modified permit to the extent appropriate. It may accept or reject all or part of the recommended decision. The Administrator may delegate some or all of the work of preparing this decision to a person or persons without substantial prior connection with the matter. The Administrator or his or her designee may consult with the Presiding Officer, members of the hearing panel, or any other EPA employee other than members of the Agency Trial Staff under § 124.78 in preparing the final decision. The Hearing Clerk shall file a copy of the decision on all parties.

§ 124.127 Final decision if there is no review.

If no party appeals a recommended decision to the Administrator, and if the Administrator does not elect to review it, the recommended decision becomes the final decision of the Agency upon the expiration of the time for filing any appeals.

§ 124.128 Delegation of authority; time limitations.

(a) The Administrator may delegate to a Judicial Officer any or all of his or her authority under this Subpart.

(b) The failure of the Administrator, Regional Administrator, or Presiding Officer to do any act within the time periods specified under this Part shall not waive or diminish any right, power, or authority of the United States Environmental Protection Agency.

(c) Upon a showing by any party that it has been prejudiced by a failure of the Administrator, Regional Administrator, or Presiding Officer to do any act within the time periods specified under this Part the Administrator, Regional Administrator, or Presiding Officer, as the case may be, may grant that party such relief of a procedural nature (including extension of any time for compliance or other action) as may be appropriate.

Appendix A to Part 124—Guide to Decisionmaking Under Part 124

This Appendix is designed to assist in reading the procedural requirements set out in Part 124. It consists of two flow charts.

Figure 1 diagrams the more conventional sequence of procedures EPA expects to follow in processing permits under this Part. It outlines how a permit will be applied for, how a draft permit will be prepared and publicly noticed for comment, and how a final permit will be issued under the procedures in Subpart A.

This permit may then be appealed to the Administrator, as specified both in Subpart A (for RCRA, UIC, or PSD permits), or Subpart E or F (for NPDES permits). The first flow chart also briefly outlines which permit decisions are eligible for which types of appeal.

Part 124 also contains special "non-adversary panel hearing" procedures based on the "initial licensing" provisions of the Administrative Procedure Act. These procedures are set forth in Subpart F. In some cases, EPA may only decide to make those procedures applicable after it has gone through the normal Subpart A procedures on a draft permit. This process is also diagrammed in Figure 1.

Figure 2 sets forth the general procedure to be followed where these Subpart F procedures have been made applicable to a permit from the beginning.

Both flow charts outline a sequence of events directed by arrows. The boxes set forth elements of the permit process; and the diamonds indicate key decisionmaking points in the permit process.

The charts are discussed in more detail below.

Figure 1—Conventional EPA Permitting Procedures

This chart outlines the procedures for issuing permits whenever EPA does not make use of the special "panel hearing" procedures in Subpart F. The major steps depicted on this chart are as follows:

1. The permit process can begin in any one of the following ways:

a. Normally, the process will begin when a person applies for a permit under §§ 122.21 (NPDES), 144.31 (UIC), 233.4 (404), and 270.10 (RCRA) and 124.3.

b. In other cases, EPA may decide to take action on its own initiative to change a permit or to issue a general permit. This leads directly to preparation of a draft permit under § 124.6.

c. In addition, the permittee or any interested person (other than for PSD permits) may request modification, revocation and reissuance or termination of a permit under §§ 122.62, 122.64 (NPDES), 144.39, 144.40 (UIC), 233.14, 233.15, (404), 270.41, 270.43 (RCRA), and 124.5.

Those requests can be handled in either of two ways:

i. EPA may tentatively decide to grant the request and issue a new draft permit for public comment, either with or without requiring a new application.

ii. If the request is denied, an informal appeal to the Administrator is available.

2. The next major step in the permit process is the preparation of a draft permit. As the chart indicates, preparing a draft permit also requires preparation of either a statement of basis (§ 124.7), a fact sheet (§ 124.8) or, compilation of an "administrative record" (§ 124.9), and public notice (§ 124.10).

3. The next stage is the public comment period (§ 124.11). A public hearing under § 124.12 may be requested before the close of the public comment period.

EPA has the discretion to hold a public hearing, even if there were no requests during the public comment period. If EPA decides to schedule one, the public comment period will be extended through the close of the hearing. EPA also has the discretion to conduct the public hearing under Subpart F panel procedures. (See Figure 2.)

The regulations provide that all arguments and factual materials that a person wishes EPA to consider in connection with a particular permit must be placed in the record by the close of the public comment period (§ 124.13).

4. Section 124.14 states that EPA, at any time before issuing a final permit decision may decide to either reopen or extend the comment period, prepare a new draft permit and begin the process again from that point, or for RCRA and UIC permits, or for NPDES permits that constitute "initial licensing", to begin "panel hearing" proceedings under Subpart F. These various results are shown schematically.

5. The public comment period and any public hearing will be followed by issuance of a final permit decision (§ 124.15). As the chart shows, the final permit must be accompanied by a response to comments (§ 124.17) and be based on the administrative record (§ 124.18).

6. After the final permit is issued, it may be appealed to higher agency authority. The exact form of the appeal depends on the type of permit involved.

a. RCRA, UIC or PSD permits standing alone will be appealed directly to the Administrator under § 124.19.

b. NPDES permits which do not involve "initial licensing" may be appealed in an evidentiary hearing under Subpart E. The regulations provide (§ 124.74) that if such a hearing is granted for an NPDES permit and if RCRA or UIC permits have been consolidated with that permit under § 124.4 then closely related conditions of those RCRA or UIC permits may be reexamined in an evidentiary hearing. PSD permits, however, may never be reexamined in a Subpart E hearing.

c. NPDES permits which do involve "initial licensing" may be appealed in a panel hearing under Subpart F. The regulations provide that if such a hearing is granted for an NPDES permit, consolidated RCRA, UIC, or PSD permits may also be reexamined in the same proceeding.

As discussed below, this is only one of several ways the panel hearing procedures may be used under these regulations.

7. This chart does not show EPA appeal procedures in detail. Procedures for appeal to the Administrator under § 124.19 are self-explanatory; Subpart F procedures are diagrammed in Figure 2; and Subpart E procedures are basically the same that would apply in any evidentiary hearing.

However, the chart at this stage does reflect the provisions of § 124.60(b), which allows EPA, even after a formal hearing has begun, to "recycle" a permit back to the draft permit stage at any time before that hearing has resulted in an initial decision.

Figure 2—Non-Adversary Panel Procedures

This chart outlines the procedures for processing permits under the special "panel hearing" procedures of Subpart F. These procedures were designed for making decisions that involve "initial licensing" NPDES permits. Those permits include the first decisions on an NPDES permit applied for by any discharger that has not previously held one, and the first decision on any statutory variance. In addition, these procedures will be used for any RCRA, UIC, or PSD permit which has been consolidated with such an NPDES permit, and may be used, if the Regional Administrator so chooses, for the issuance of individual RCRA or UIC permits. The steps depicted on this chart are as follows:

1. Application for a permit. These proceedings will generally begin with an application, since NPDES initial licensing always will begin with an application.

2. Preparation of a draft permit. This is identical to the similar step in Figure 1.

3. Public comment period. This again is identical to the similar step in Figure 1. The Regional Administrator has the opportunity to schedule an informal public hearing under § 124.12 during this period.

4. Requests for a panel hearing must be received by the end of the public comment period under § 124.113. See § 124.114.

If a hearing request is denied, or if no hearing requests are received, a recommended decision will be issued based on the comments received. The recommended decision may then be appealed to the Administrator. See § 124.115.

5. If a hearing is granted, notice of the hearing will be published in accordance with § 124.116 and will be followed by a second comment period during which requests to participate and the bulk of the remaining evidence for the final decision will be received (§§ 124.117 and 124.118).

The regulations also allow EPA to move directly to this stage by scheduling a hearing when the draft permit is prepared. In such cases the comment period on the draft permit under § 124.113 and the prehearing comment period under § 124.118 would occur at the same time. EPA anticipates that this will be the more frequent practice when permits are processed under panel procedures.

This is also a stage at which EPA can switch from the conventional procedures diagramed in Figure 1 to the panel hearing procedures. As the chart indicates, EPA would do this by scheduling a panel hearing either through use of the "recycle" provision in § 124.14 or in response to a request for a formal hearing under § 124.74.

6. After the close of the comment period, a panel hearing will be held under § 124.120, followed by any cross-examination granted under § 124.121. The recommended decision will then be prepared (§ 124.124) and an opportunity for appeal provided under § 124.125. A final decision will be issued after appeal proceedings, if any, are concluded.

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Figure 1-Conventional EPA Permitting Procedures

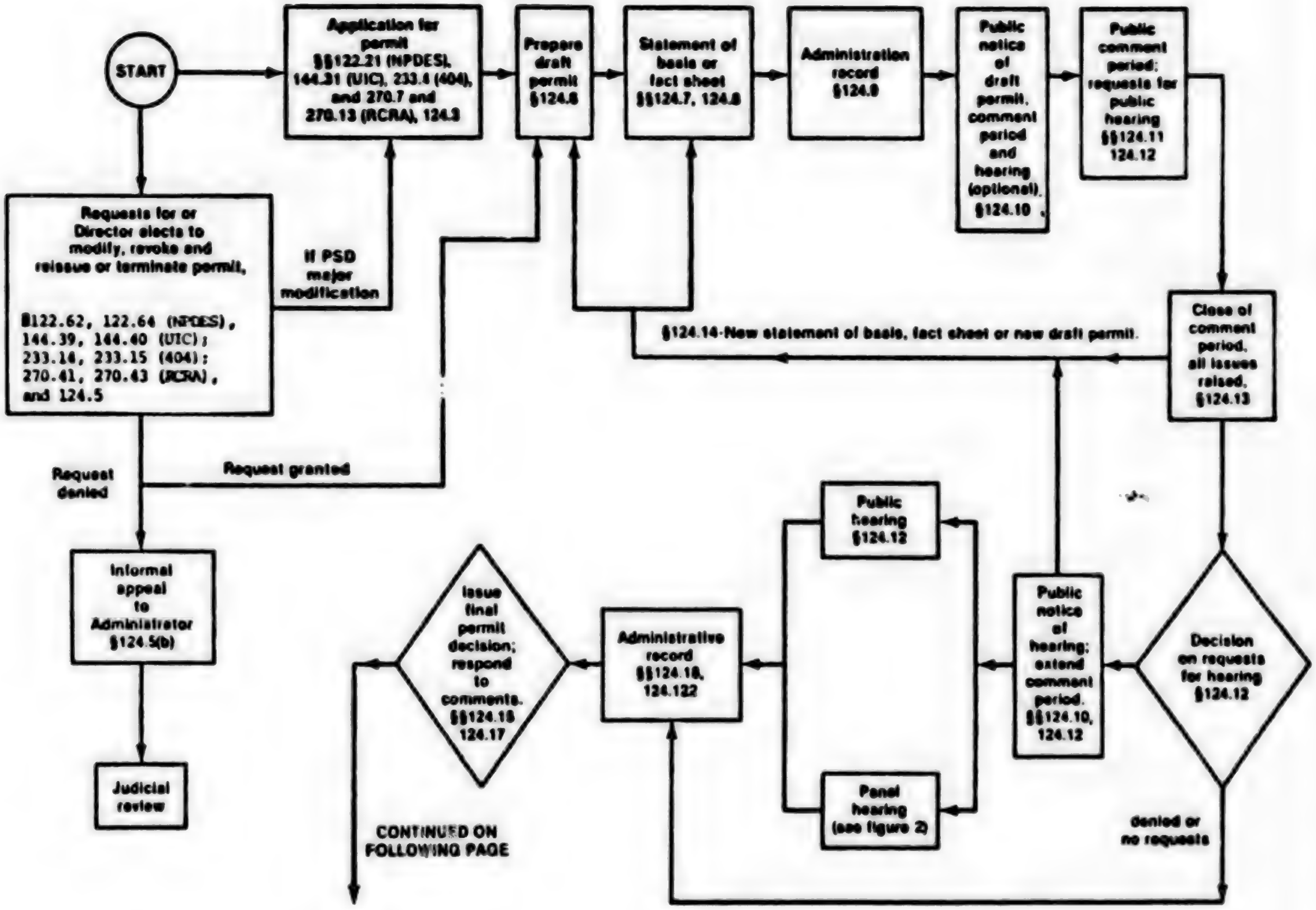
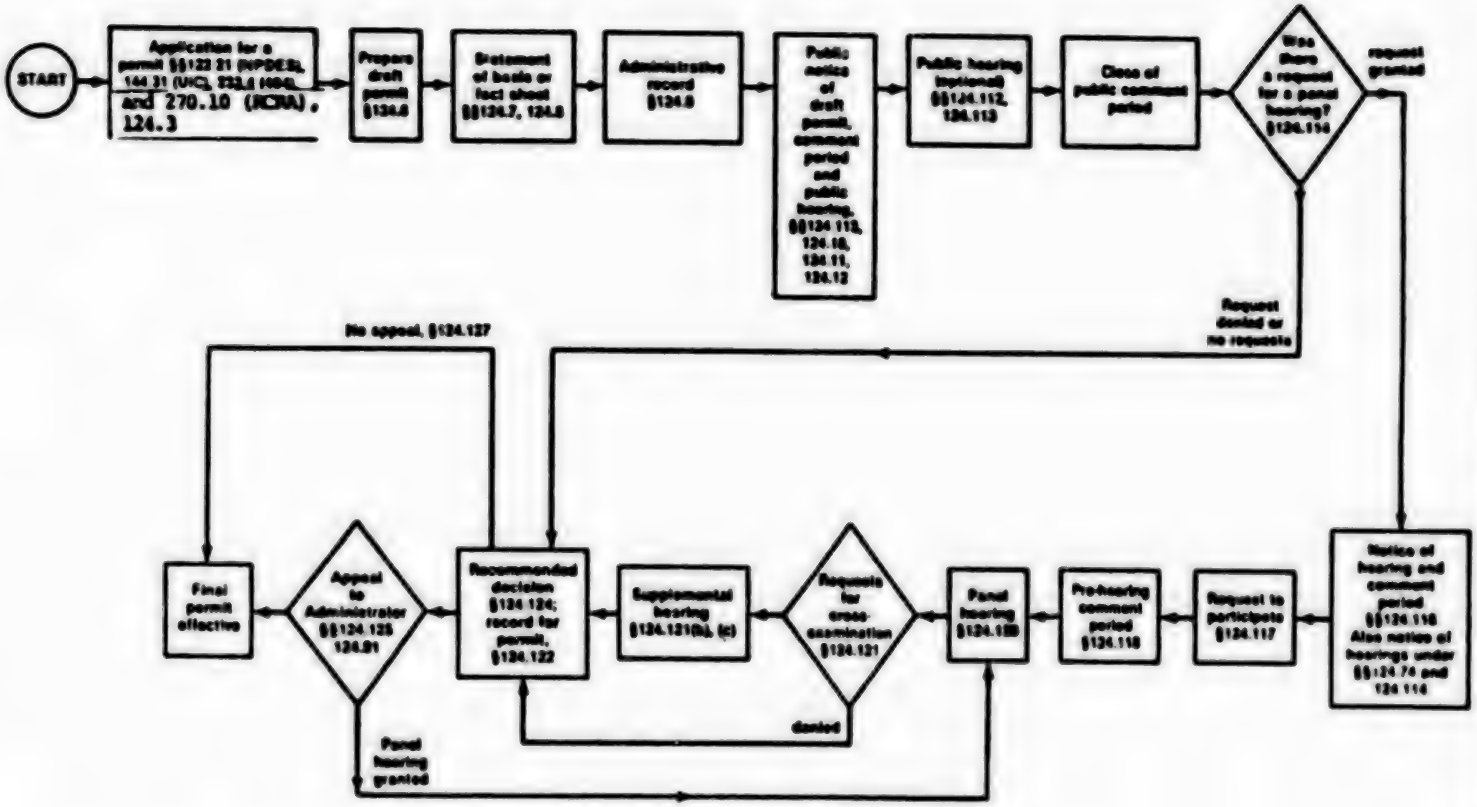

START
Application for permit §§122.21 (NPDES), 144.31 (UIC), 233.4 (404), and 270.7 and 270.13 (RCRA), 124.3
Prepare draft permit §124.6
Statement of basis or fact sheet §§124.7, 124.8
Administration record §124.9
Public notice of draft permit, comment period and hearing (optional), §124.10
Public comment period; requests for public hearing §§124.11 124.12
Requests for or Director elects to modify, revoke and reissue or terminate permit,
§122.62, 122.64 (NPDES), 144.39, 144.40 (UIC); 233.14, 233.15 (404); 270.41, 270.43 (RCRA), and 124.5
If PSD major modification
§124.14-New statement of basis, fact sheet or new draft permit.
Close of comment period, all issues raised, §124.13
Request denied
Request granted
Informal appeal to Administrator §124.5(b)
Judicial review
Public hearing §124.12
Panel hearing (see figure 2)
Public notice of hearing; extend comment period. §§124.10, 124.12
Decision on requests for hearing §124.12
Administrative record §§124.18, 124.122
Issue final permit decision; respond to comments. §§124.15 124.17
denied or no requests
CONTINUED ON FOLLOWING PAGE

Figure 2 Non-Adversary Panel Procedures


START
Application for a permit §§122.21 (NPDES), 144.31 (UIC), 233.4 (404), and 270.10 (RCRA), 124.3
Prepare draft permit §124.6
Statement of basis or fact sheet §§124.7, 124.8
Administrative record §124.9
Public notice of draft permit, comment period and public hearing, §§124.113, 124.10, 124.11, 124.12
Public hearing (optional) §§124.112, 124.113
Close of public comment period
Was there a request for a panel hearing? §124.114
request granted
Request denied or no requests
Notice of hearing and comment period §§124.116 Also notice of hearings under §§124.74 and 124.114
Request to participate §124.117
Pre-hearing comment period §124.118
Panel hearing §124.120
Requests for cross-examination §124.121
denied
Supplemental hearing §124.121(b), (c)
Recommended decision §124.124; record for permit, §124.122
No appeal, §124.127
Appeal to Administrator §§124.125 124.91
Panel hearing granted
Final permit effective

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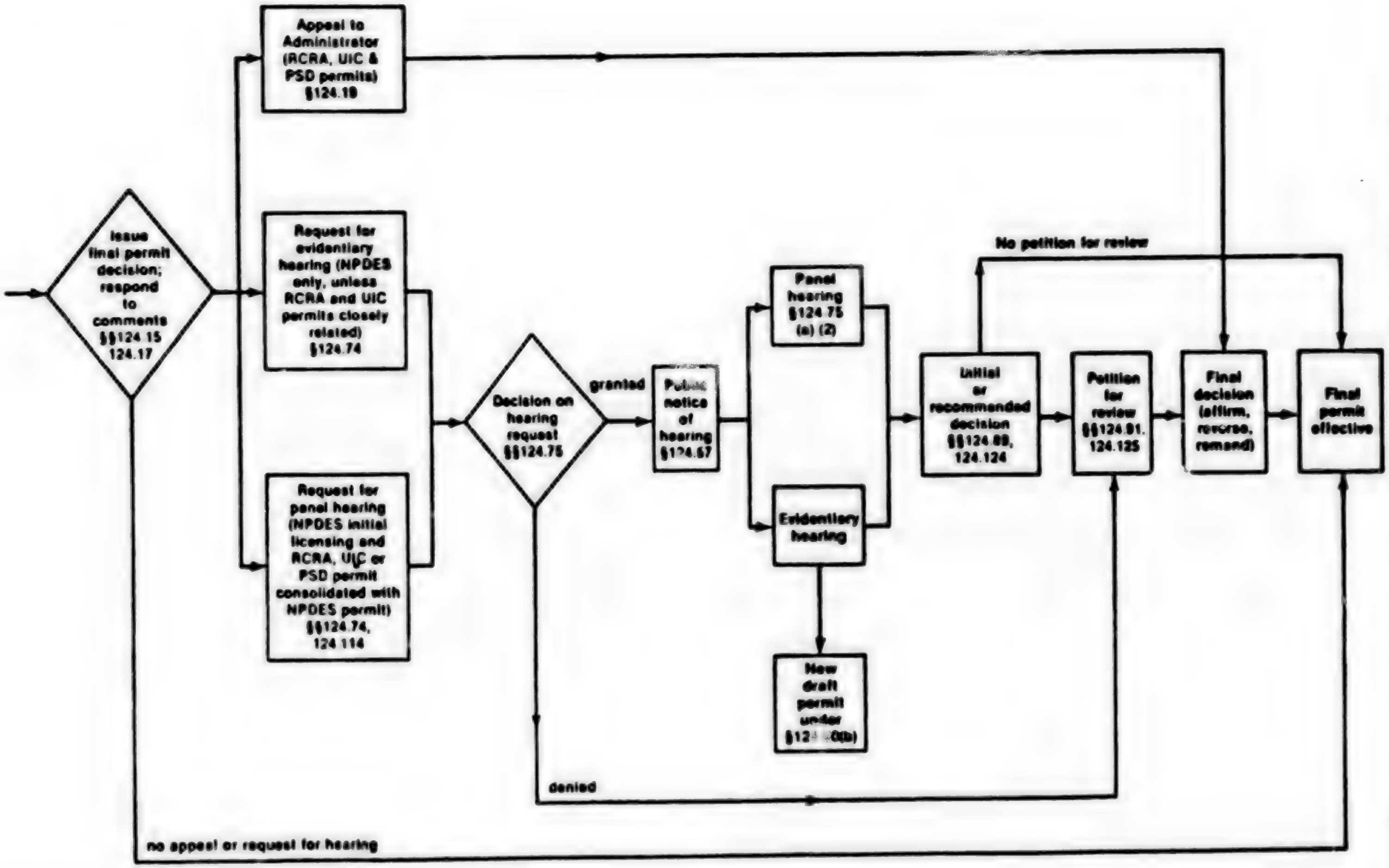
EPA Appeal Procedures


Appeal to Administrator (RCRA, UIC & PSD permits) §124.19
Issue final permit decision; respond to comments §§124.15 124.17
Request for evidentiary hearing (NPDES only, unless RCRA and UIC permits closely related) §124.74
Request for panel hearing (NPDES initial licensing and RCRA, UIC or PSD permit consolidated with NPDES permit) §§124.74, 124.114
Decision on hearing request §§124.75
granted
Public notice of hearing §124.57
Panel hearing §124.75 (a) (2)
Evidentiary hearing
New draft permit under §12 0(b)
No petition for review
Initial or recommended decision §§124.89, 124.124
Petition for review §§124.91, 124.125
Final decision (affirm, reverse, remand)
Final permit effective
denied
no appeal or request for hearing

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PART 125—CRITERIA AND STANDARDS FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

The cross-references in Part 125 to former Parts 122 and 123 are revised as follows:

§ 125.3 [Amended]

(1) In § 125.3(a), change the reference from § 122.60 to § 122.41; the reference from § 122.61 to § 122.42; and the reference from § 122.62 to § 122.44.

(2) In § 125.3(a)(2), change the reference from § 122.67(d) to § 122.29(d).

(3) In § 125.3(b), change the reference from § 122.53 to § 122.21.

(4) In § 125.3(c), change the reference from §122.53 to §122.21.

(5) In §125.3(g)(4), change the reference from §122.61(a)(1) to § 122.42(a)(1).

§125.30 [Amended]

(6) In § 125.30(b), change the reference from §122.53(l)(1) to § 122.21(l)(1).

§ 125.59 [Amended]

(7) In § 125.59(d), change the reference from §122.5(a)(3) to § 122.6(a)(3).

§ 125.67 [Amended]

(8) In § 125.67, change the reference from § 122.14 to § 122.61.

§ 125.92 [Amended]

(9) In § 125.92, change the reference from § 122.53(j) to § 122.21(m).

§ 125.95 [Amended]

(10) In § 125.85, change the reference from § 122.53(i) to § 122.21(l).

§ 125.104 [Amended]

(11) In § 125.104(c)(2), change the reference from § 122.15 to § 122.62.

PART 146—UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

The cross-references in Part 146 to former Parts 122 and 123 are revised as follows:

§ 146.01 [Amended]

(1) In § 146.01, change the references from 40 CFR Parts 122 and 123 to 40 CFR Parts 144 and 145.

§ 146.02 [Amended]

(2) In § 146.02, change the reference from 40 CFR Part 122 to 40 CFR Part 144.

§ 146.03 [Amended]

(3) In § 146.03, change the reference from § 122.35(b) to § 144.8(b); the reference from part 122 to Part 144; the reference from Part 123 to Part 145; and the reference from § 122.37 to §§ 144.21-26 and 144.15.

§ 146.04 [Amended]

(4) In § 146.04, change the reference from § 122.35 to § 144.8.

§ 146.07 [Amended]

(5) In § 146.07, change the reference from § 122.44 to § 144.55.

§ 146.09 [Amended]

(6) In § 146.09, change the reference from § 122.38 to § 144.31 (a), (c), (g); and change the reference from § 123.4(g) to § 144.22(f).

§ 146.10 [Amended]

(7) In § 146.10(d), change the reference from § 122.42(f) to § 144.52(a)(6); and change the reference from § 122.41(e) to § 144.51(n).

§ 146.14 [Amended]

(8) In § 146.14(a)(1), change the reference from § 122.4 to § 144.31; and change the reference from § 122.38(c) to § 144.31(g).

(9) In § 146.14(a)(14), change the reference from § 122.44 to § 144.55.

(10) In § 146.14(a)(16), change the reference from § 122.42(a) to § 144.52(a)(1).

§ 146.15 [Amended]

(11) In § 146.15, change the reference from § 122.18(c)(4)(C)(ii) to § 144.9(b)(2).

(12) In § 146.15(i), change the reference from § 122.41(d) to § 144.51 (l)(6).

§ 146.23 [Amended]

(13) In § 146.23(b)(4), change the reference from § 122.42(e) to § 144.52(a)(5).

§ 146.24 [Amended]

(14) In § 146.24(a)(1), change the reference from § 122.4 to § 144.31; and change the reference from § 122.38(c) to § 144.31(g).

(15) In § 146.24(a)(13), change the reference from § 122.44 to § 144.55.

(16) In § 146.24(a)(14), change the reference from § 122.42(g) to § 144.52(a)(7).

§ 146.25 [Amended]

(17) In § 146.25(a), change the reference from § 122.18(c)(4)(C)(ii) to § 144.9(b)(2).

(18) In § 146.25(a)(6), change the reference from § 122.41(d) to § 144.51(1)(6).

§ 146.34 [Amended]

(19) In § 146.34(a)(1), change the reference from § 122.4 to § 144.31; and change the reference from § 122.38(c) to § 144.31(g).

(20) In § 146.34(a)(15), change the reference from § 122.42(9) to § 144.52(a)(7).

(21) In § 146.34(a)(16), change the reference from § 122.44 to § 144.55.

§ 146.35 [Amended]

(22) In § 146.35, change the reference from § 122.18(c)(4)(C)(ii) to § 144.9(b)(2).

(23) In § 146.35(h), change the reference from § 122.41(d) to § 144.51(1)(6).

§ 146.52 [Amended]

(24) In § 146.52(a), change the reference from § 122.37(c)(1) to § 144.26(a).

Title 40 of the Code of Federal Regulations is further amended as follows:

PART 260—[AMENDED]

§ 260.10 [Amended]

1. Section 260.10 is amended by removing the words "Parts 122" and "Part 123" in the definition of. "Designated facility" and substituting "Parts 270" and "Part 271", respectively.

Appendix I [Amended]

2. Appendix I to Part 260, entitled "Overview of Subtitle C Regulations" is amended by removing the words "Part 122" and substituting "Part 270" in two places under "Hazardous Waste Regulations."

3. Appendix I to Part 260, figure 3, entitled "Special Provisions for Certain Hazardous Waste", is amended by removing the words "Part 122" and substituting Part 270 in the box entitled "It is subject to the following requirements * * *"

4. Appendix I to Part 260, figure 4, entitled "Regulations for Hazardous Waste Not Covered in Diagram 3," is amended by removing the words "Part 122" and substituting "Part 270" under "0/0 who don't qualify for interim status."

PART 261—[AMENDED]

§ 261.1 [Amended]

5. Section 261.1 paragraph (a) is amended by removing the words "Parts 122 through 124" and substituting "Parts 270, 271, and 124".

6. Section 261.1 paragraph (a)(1) is amended by removing the words "Parts 262 through 265 and 122 through 124" and substituting the words "Parts 262 through 265, 270, 271 and 124".

§ 261.4 [Amended]

7. Section 261.4 paragraph (c) is amended by removing the words "Parts 262 through 265 and Parts 122 through

124" and substituting the words "Parts 262 through 265, 270, 271 and 124".

§ 261.5 [Amended]

8. Section 261.5 paragraphs (b), (e), (f), (g)(3)(i) and (g)(3)(ii) are amended by removing the words "Part 122" and substituting the words "Part 270". Paragraph (g)(3)(iii) is amended by removing the words "Part 123" and substituting the words "Part 271".

§ 261.6 [Amended]

9. Section 261.6, paragraph (a) is amended by removing the words "Parts 122 through 124" and substituting the words "Parts 270, 271, and 124". Paragraph (b)(6) is amended by removing the words "Parts 122" and substituting the words "Parts 270".

§ 261.7 [Amended]

10. Section 261.7, paragraph (a)(1) is amended by removing the words "Part 122" and substituting the words "Part 270". Paragraph (a)(2) is amended by removing the words "Parts 122" and substituting the words "Parts 270".

§ 261.20 [Amended]

11. Section 261.20 paragraph (b) is amended by removing the words "Part 122" and substituting the words "Part 270".

§ 261.30 [Amended]

12. Section 261.30 paragraph (c) is amended by removing the words "Part 122" and substituting the words "Part 270".

PART 262—[AMENDED]

§ 262.10 [Amended]

13. Section 262.10 paragraph (d) is amended by removing the words "Parts 122" and substituting the words "Parts 270". The Note at the end of the section is amended by removing the words "Part 122" and substituting the words "Part 270".

§ 262.34 [Amended]

14. Section 262.34 paragraph (b) is amended by removing the words "Part 122" and substituting the words "Part 270".

§ 262.41 [Amended]

15. Section 262.41 paragraph (b) is amended by removing the words "Part 122" and substituting the words "Part 270".

§ 262.50 [Amended]

16. Section 262.50 is amended by removing the words "Part 123" from the Note, and substituting the words "Part 271".

§ 262.51 [Amended]

17. Section 262.51 is amended by removing the words "Part 122" and substituting the words "Part 270".

PART 263—[AMENDED]

§ 263.12 [Amended]

18. Section 263.12 is amended by removing the words "Parts 122," and substituting the words "Parts 270".

PART 264—[AMENDED]

§ 264.1 [Amended]

19. Section 264.1 paragraphs (c) and (e) are amended by removing the words "Part 122" and substituting the words "Part 270".

20. Section 264.1 paragraph (d) is amended by removing the words "§ 122.45" and substituting the words "§ 144.14".

21. Section 264.1 paragraph (f) is amended by removing the words "Subparts A and B of Part 123" and substituting the words "Subpart A of Part 271," and by removing the words "Subpart F of Part 123" and substituting the words "Subpart B of Part 271".

§ 264.3 [Amended]

22. Section 264.3 is amended by removing the words "§ 122.23" and substituting the words "§ 270.70". The comment is amended by removing the words "Parts 122" and substituting the words "Parts 270".

§ 264.12 [Amended]

23. Section 264.12 paragraph (c) is amended by removing the words "Part 122" and substituting the words "Part 270".

§ 264.13 [Amended]

24. Section 264.13 paragraph (a)(1) is amended by removing the words "Part 122, Subparts A and B" and substituting the words "Part 270". The comment is amended by removing the words "Part 122 Subpart B" and substituting the words "Part 270".

§ 264.14 [Amended]

25. Section 264.14 is amended by removing the words "Part 122, Subpart B" from the comment after paragraph (a)(2), and substituting the words "Part 270".

§ 264.15 [Amended]

26. Section 264.15 is amended by removing the words "Part 122 Subpart B" from the comment after paragraph (b)(4), and substituting the words "Part 270".

§ 264.16 [Amended]

27. Section 264.16 is amended by removing the words "Part 122, Subpart B" from the comment after paragraph (a)(1) and substituting the words "Part 270".

§ 264.18 [Amended]

28. Section 264.18 is amended by removing the words "§ 122.25(a)(11)" in the comment after paragraph (a) and substituting the words "§ 270.14(b)(11)". The comment after paragraph (b)(1) is amended by removing the words "Part 122", "Part 123", and "Parts 122" and substituting the words "Part 270", "Part 271", and "Parts 270", respectively.

§ 264.32 [Amended]

29. Section 264.32 is amended by removing the words "Part 122, Subpart B" from the comment after paragraph (d), and substituting the words "Part 270".

§ 264.35 [Amended]

30. Section 264.35 is amended by removing the words "Part 122, Subpart B" from the comment and substituting the words "Part 270".

§ 264.93 [Amended]

31. Section 264.93 paragraph (c) is amended by removing the words "§ 122.35" and substituting the words "§ 144.8".

§ 264.94 [Amended]

32. Section 264.94 paragraph (c) is amended by removing the words "§ 122.35" and substituting the words "§ 144.8".

§ 264.112 [Amended]

33. Section 264.112 paragraph (a) is amended by removing the words "§ 122.25(a)(13)" and substituting the words "§ 270.14(b)(13)".

34. Section 264.112 paragraph (a)(2) is amended by removing the words "122.17" and substituting the words "§ 270.42". The comment after paragraph (b) is amended by removing the words "§ 122.17(c)" and substituting the words "§ 270.42(c)".

§ 264.113 [Amended]

35. Section 264.113 is amended by removing the words "§ 122.17" and substituting the words "§ 270.42".

§ 264.118 [Amended]

36. Section 264.118 paragraph (a) is amended by removing the words "§ 122.25(a)(13)" and substituting the words "§ 270.14(b)(13)", and by removing the words "§ 122.29" and substituting the words "§ 270.32".

§ 264.272 [Amended]

37. Section 264.272 paragraph (b) is amended by removing the words to

"§ 122.27(c)" and substituting the words "§ 270.63".

§ 264.340 [Amended]

38. Section 264.340 paragraph (c) is amended by removing the words to "§ 122.27(b)" and substituting the words "§ 270.62".

§ 264.341 [Amended]

39. Section 264.341 paragraph (a) is amended by removing the words "§ 122.27(b)" and substituting the words "§ 270.62", by removing the words "§ 122.27(b)(2) and substituting the words "§ 270.62(b)", and by removing the words "§ 122.25(b)(5)" and substituting the words "§ 270.19".

§ 264.342 [Amended]

40. Section 264.342 paragraph (b)(2) is amended by removing the words "§ 122.27(b)" and substituting the words "§ 270.62".

§ 264.343 [Amended]

41. Section 264.343 paragraph (d) is amended by removing the words "§ 122.15" and substituting the words "§ 270.41".

§ 264.344 [Amended]

42. Section 264.344 paragraph (a)(1) is amended by removing the words "§ 122.27(b)" and substituting the words "§ 270.62".

43. Section 264.344 paragraph (b) is amended by removing the words "§ 122.25(b)(5)" and substituting the words "§ 270.19".

44. Section 264.344 paragraph (c)(4) is amended by removing the words "§ 122.25(b)(5)(iii)" and substituting the words "§ 270.19(c)".

PART 265—[AMENDED]

§ 265.1 [Amended]

45. Section 265.1 paragraph (b) is amended by removing the words "§ 122.22" and substituting the words "§ 270.10". The comment after paragraph (b) is amended by removing the words "Part 122" and substituting the words "Part 270". The comment after paragraph (c)(3) is amended by removing the words "§ 122.45" and substituting the words "§ 144.14".

46. Section 265.1 paragraph (c)(4) is amended by removing the words "Subparts A and B or Subpart F of Part 123" and substituting the words "Subparts A or B of Part 271".

§ 265.12 [Amended]

47. Section 265.12 paragraph (b) is amended by removing the words "Part 122" and substituting the words "Part 270", and by removing the words "§ 122.23(c)" and substituting the words "§ 270.72".

§ 265.147 [Amended]

48. Section 265.147 paragraphs (d) and (e) are amended by removing the words "§ 122.15(a)(5)" and substituting the words "§ 270.41".

§ 265.276 [Amended]

49. Section 265.276 is amended by removing the words "§ 122.23(c)(3)" from the comment after paragraph (a) and substituting words "§ 122.72(c)".

[FR Doc. 83–7820 Filed 3–31–83; 8:45 am]

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This handbook is designed primarily for use by Fish and Wildlife Service field office personnel in the review of NPDES section 402 permits. It includes a strategy for becoming familiar with the Clean Water Act, Environmental Protection Agency regulations, and the scientific literature of the water pollution control field. Water quality criteria are presented in summary tables for quick reference. Criteria are offered for selecting priority permits for review by the Fish and Wildlife Service. Sources of information and technical assistance are listed and an annotated bibliography is included along with directories of State and EPA offices. Case studies of Fish and Wildlife Service participation in NPDES permit decisions are presented.

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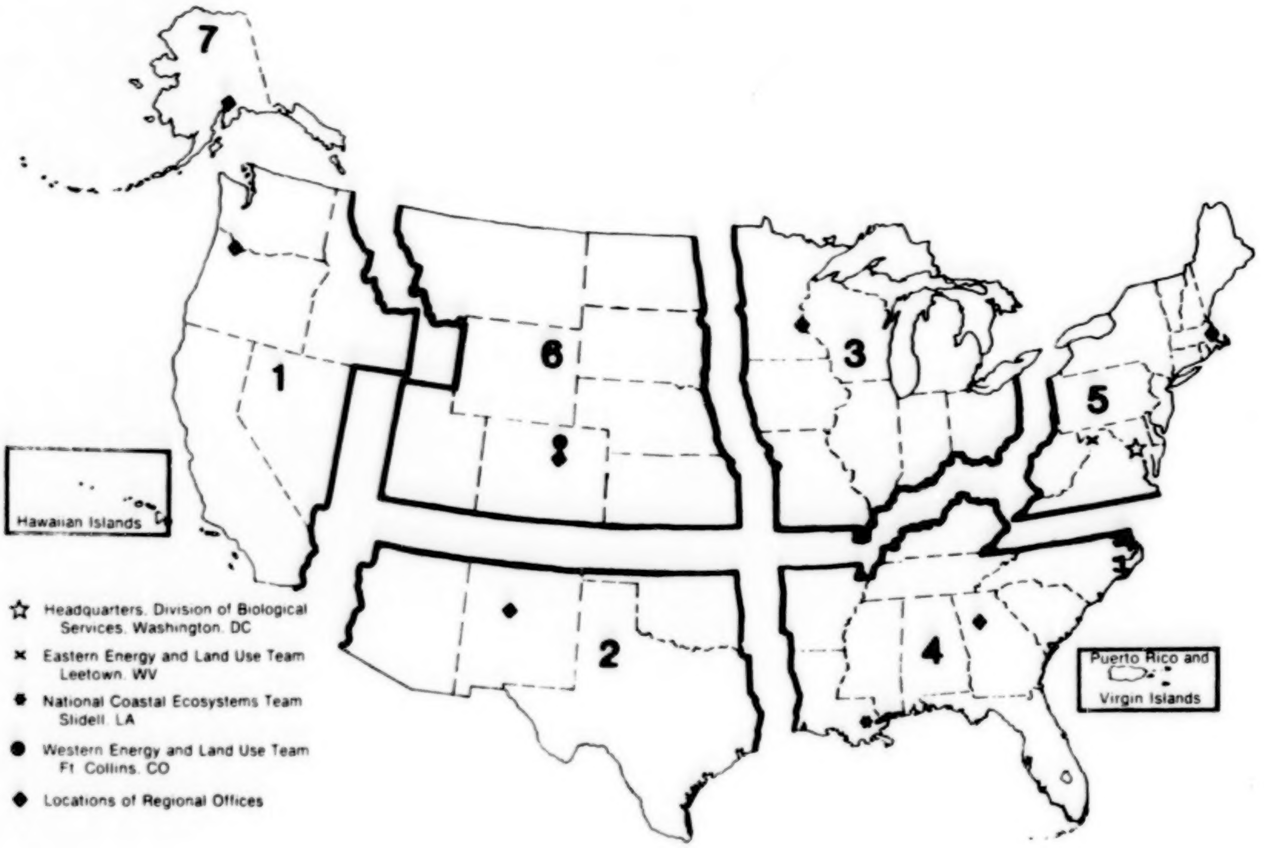
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DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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